

**FINAL CONSTRUCTION QUALITY CONTROL
PLAN ADDENDUM**
Operable Unit-2B, Sites 2 and 17
Former Marine Corps Air Station El Toro
California

Contract Number N68711-01-D-6016
Task Orders 0004 - 0007

Revision 1
October 2005

Prepared for:

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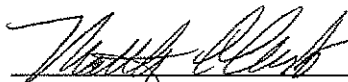
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Prepared by:



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10/26/05
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Table of Contents

List of Figures	ii
List of Tables	ii
List of Attachments	ii
Acronyms and Abbreviations	iii
1.0 Introduction	1-1
1.1 Project Background	1-1
1.2 Construction Quality Control Objectives	1-2
2.0 Project Organization, Responsibilities, and Authorities	2-1
3.0 Quality Control Methodology	3-1
4.0 Submittals	4-1
5.0 Construction Quality Control Activities	5-1
5.1 Inspections	5-1
5.1.1 Preparatory Inspections	5-1
5.1.2 Initial Inspections	5-2
5.1.3 Follow-Up Inspections	5-2
5.2 Site Specific Field Testing	5-2
5.2.1 Import Soil Confirmation	5-3
5.2.2 Landfill Subgrade Preparation	5-3
5.2.3 C1/C2 Excavation/Waste Consolidation	5-3
5.2.4 C1/C2 Fill	5-4
5.2.5 Evapotranspiration Cap Fill	5-4
5.2.6 Geomembrane Installation	5-5
5.2.7 Utility Abandonment	5-6
5.2.8 Concrete/Shotcrete	5-6
5.3 Documentation and Reports	5-6
5.3.1 Documentation	5-7
5.3.2 Construction Quality Control Submittals	5-7
6.0 Change/Modification Control	6-1
6.1 Scope Change	6-1
6.2 Design Change/Field Change	6-1
7.0 Nonconformance/Corrective Action	7-1
7.1 Documentation of Nonconforming Items	7-1
7.2 Implementation of Corrective Action	7-1
7.3 Verification and Documentation of Corrective Action	7-2
8.0 References	8-1

List of Figures

- Figure 1-1 Remedial Action Site Map
Figure 2-1 Project Organizational Chart

List of Tables

- Table 2-1 Project Personnel Roles and Responsibilities
Table 5-1 Summary of Cover Construction Quality Control Plan – Field Inspection and Control – All Earthwork
Table 5-2 Summary of Cover Construction Quality Control Plan – Field and Laboratory Geotechnical Testing for Common Fill/Foundation Layer/Subgrade
Table 5-3 Summary of Cover Construction Quality Control Plan – Field and Laboratory Geotechnical Testing for Evapotranspiration Soil Cover

List of Attachments

- Attachment 1 Report Forms
Attachment 2 Project QC Representative Appointment Letters
Attachment 3 Laboratory Certifications
Attachment 4 Summary of Construction Quality Control Submittals

Acronyms and Abbreviations

AHA	activity hazard analyses
ASTM	ASTM International, formerly American Society for Testing and Materials
CQC	construction quality control
CQCPA	Construction Quality Control Plan Addendum
DFCQCP	Draft Final Construction Quality Control Plan
DFW	definable feature of work
ERRG	Engineering/Remediation Resources Group, Inc.
ET	evapotranspiration
FTB	film tearing bond
IRP	Installation Restoration Program
MCAS	Marine Corps Air Station
NIST	National Institute of Standards and Technology
OU	Operable Unit
QC	quality control
PID	photo ionization detector
RDFDS	Revised Draft Final Design Submittal
ROD	Record of Decision
ROICC	Resident Officer in Charge of Construction
RPM	Remedial Project Manager
RWQCB	California Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SHSO	Site Health and Safety Officer
SHSP	Site Health and Safety Plan
SS	Site Superintendent
SWP	Site Work Plan
TO	Task Order
VOC	volatile organic compounds

1.0 Introduction

This submittal provides the Construction Quality Control Plan Addendum (CQCPA) prepared for the remedial action for Installation Restoration Program (IRP) Site 2 (Magazine Road Landfill) and IRP Site 17 (Communication Station Landfill), collectively known as Operable Unit (OU) 2B at the former Marine Corps Air Station (MCAS) El Toro (base) in Orange County, California (Figure 1-1). This report, the CQCPA, was prepared by Engineering/Remediation Resources Group, Inc. (ERRG), and ERRG's team subcontractor Shaw Environmental, Inc. in partial fulfillment of the work scope of Task Order (TO) 0004 - 0007 issued by the Naval Facilities Engineering Command Southwest (Navy) under Contract No. N68711-01-D-6016.

1.1 Project Background

IRP Sites 2 and 17 landfills have been under study since 1985 in an effort to develop an appropriate remedial action to prevent the sites from posing unacceptable risk to human health and the surrounding environment. The final remedy for IRP Sites 2 and 17 was selected in July 2001 when the final interim Record of Decision (ROD) (Navy, 2000) was signed.

Based on the ROD, a remedial design for the selected remedy was developed by Earth Tech, Inc. and issued in the report *Revised Draft Final Design Submittal, Remedial Action, Operable Unit 2B* (RDFDS) (Earth Tech, 2005). The CQCPA was prepared in accordance with the RDFDS and *Draft Final Construction Quality Control Plan, Remedial Action, Operable Unit 2B* (DFCQCP) (Earth Tech, 2002). Upon approval of the RDFDS, the *Final Remedial Action Site Work Plan* (SWP) (ERRG, 2005), and this report, the CQCPA (Appendix I of the SWP), remedial construction will be implemented accordingly to satisfy the requirements.

According to the DFCQCP (Earth Tech, 2002), the major tasks related to the remedial action involve the following:

- Construction of cover system
- Consolidation of waste
- Construction of erosion control features
- Construction/installation of site access restriction features, including fencing, signs, gates, and locks
- Installation of leachate, groundwater, and gas monitoring devices to detect any migration of contaminants from the landfill.

The CQCPA specifically addresses the construction quality control (CQC) activities to be performed during construction of the final cover system and earthwork for appurtenant structures (e.g., roads, drainage, structures, and fencing).

1.2 Construction Quality Control Objectives

This CQCPA identifies specific quality control (QC) activities to be implemented during various phases of remedial construction to ensure that each element is performed in accordance with the DFCQCP (Earth Tech, 2002).

QC activities are actions conducted by the ERRG team personnel on a regular basis to “build-in” quality at every phase of the project. Provisions for standards, testing, inspections, corrective actions, and documentation control are presented in the DFCQCP (Earth Tech, 2002) and in the RDFDS (Earth Tech, 2005).

In general, CQC-related activities are divided into three phases to control quality at various construction stages, as follows:

- Preconstruction, including selection of qualified specialty contractors and material suppliers and material verification
- Construction, including inspection and verification during installation of each closure cover element
- Postconstruction, including documentation of as-built conditions and certification by qualified registered professionals.

In addition, record-keeping and documentation protocols and variance and corrective action reporting will be implemented throughout the construction process. Attachment 1 contains examples of QC documentation forms and checklists. The forms and checklists may be modified or revised to accommodate changing site or project conditions as needed.

QC activities to be performed during construction are briefly summarized as follows:

- Field inspections to be performed on site. These inspections are primarily visual examinations, but could include measurement of materials and equipment used, techniques employed, and final products. The purpose of these inspections is to demonstrate that a specific guideline, specification, or procedure was followed for the activities.
- Field testing to be performed on site according to specific procedures. Field tests are used to assess whether the material property or construction performance meets project and design requirements.

- Laboratory testing to be performed by on-site or off-site laboratories on samples or materials used for construction. The purpose of the laboratory tests is to characterize materials and confirm performance.
- Surveying to be performed on site to establish horizontal and/or vertical position prior to, during, and after construction, as appropriate.
- Receiving inspections to be performed on materials obtained from suppliers or manufacturers. These inspections include visual examination and measurement as necessary to verify that the materials used meet specifications and are free of defects.
- Manufacturer's certificates to be obtained from suppliers for selected shipments of materials received. These entail a statement that the materials meet required specifications.
- Checklists to be completed for critical inspections. Checklists will be filled out during the course of inspection to document inspection results.
- Calibration to be performed on laboratory and field equipment in accordance with the designated test procedure.

Depending on the construction work item, appropriate QC procedures will be implemented and documented as specified in this report, the CQCPA.

2.0 Project Organization, Responsibilities, and Authorities

The project organizational chart is presented in Figure 2-1. The individuals listed in the organization chart have been identified as key project contacts and can be contacted regarding questions pertaining to this project. The responsibilities and authorities of each person identified in the QC organization chart are listed in Table 2-1. Qualifications for these individuals will be provided as a separate submittal to the Navy Remedial Project Manager (RPM) and Navy Resident Officer in Charge of Construction (ROICC) representative. Project QC Representative Appointment Letters for key QC personnel describing project duties, responsibilities, and authorities are included in Attachment 2.

As applicable, personnel assigned to perform, review, approve, and/or certify the design of architectural, structural, mechanical, electrical, civil, or other engineering features of the work will be registered to practice in their particular professional field in the state within which the project being designed is located.

Outside testing and analytical laboratories and consultants will include the following:

<u>Laboratory/Consultant</u>	<u>Project Role</u>
Ninyo & Moore	Geotechnical Laboratory
Leighton Consulting, Inc.	Geotechnical Laboratory
Jeff Lincer, Ph.D.	Biological Surveys / Monitoring
EMAX	Analytical Testing
Severn Trent Laboratories	Analytical Testing / Radiological Tests

Laboratory certifications are provided in Attachment 3.

3.0 *Quality Control Methodology*

A definable feature of work (DFW) can be an activity, a task, or set of tasks that involve similar materials, equipment, handling, or inspection techniques; have requirements detailed in a single section of a specification; or are not concealed or covered by any other DFW when completed and fully inspected. Based on the construction specifications, a DFW can be identified and quality control criteria can be verified through various CQC activities.

In accordance with the DFCQCP (Earth Tech, 2002), the DFWs associated with CQC activities are identified as follows:

- Import Soil Confirmation
- Mobilize / Utilities
- Abandon Monitoring Wells
- Clear and Grub
- Landfill Subgrade Preparation
- Temp Drainage / Erosion Control
- C1/C2 Excavation / Waste Consolidation
- C1/C2 Subgrade Preparation
- C1/C2 Fill
- Marsten Matting Removal
- Slope Fill Thicknesses
- Fugitive Dust Emission Control
- Blend, Haul, and Stockpile Soil
- Evapotranspiration (ET) Cap Fill
- Mine and Stockpile Riprap
- Geomembrane Installation
- Geotextile Installation
- Riprap Revetments
- Gabion Mats/Boxes
- Erosion Control Blankets
- Chain Link Fences
- Install Lysimeter Wells
- Install Gas Monitoring Wells
- Install Groundwater Wells
- Utility Abandonment
- Concrete/Shotcrete
- Irrigation System
- Aerial/Land Survey
- Demobilize

The CQC activities for the above DFWs will be implemented on a project-wide basis when performing the work scope under this contract.

4.0 Submittals

The submittal requirements are compiled in accordance with the RDFRDS (Earth Tech, 2005). The submittals will be submitted to the Navy ROICC, Navy RPM, and the design contractor unless otherwise specified. Technical submittals will not be forwarded directly to regulatory agencies unless otherwise directed by the Navy RPM. All contractor quality control reports and contractor production reports will be submitted to the Navy ROICC representative and Navy RPM on a daily basis and will be transmitted to the Regional Water Quality Control Board (RWQCB) on a weekly basis after review by the Navy ROICC.

Submittals will be reviewed, signed, and dated by the CQC Manager or appropriate project team members, as required. The Site CQC Specialist will maintain a Submittal Register (Attachment 4) to track the status of all submittals. Submittals can be issued as “draft,” “draft final,” or “final.” Drafts will be issued for review and comment by the Navy. When Navy comments are received and incorporated, a draft final version of the submittal will be issued for regulatory review, if required. If regulatory review is not required, the draft documents will be considered “final” and used for field implementation. The regulatory comments on the “draft final” version will be addressed in the “final” version of the submittal.

5.0 Construction Quality Control Activities

CQC activities include inspections, site specific field testing, and documentation and reporting. Each activity is discussed in the sections that follow.

5.1 Inspections

Inspection activities include three phases of inspections to be conducted for each DFW during remedial construction. The three phases of inspections are: preparatory inspections, initial inspections, and follow-up inspections. Examples of the Preparatory, Initial and Follow-up Inspection Checklists are included as Attachment 1

Checklists are required for critical inspections and will be filled out during the course of the inspection to document the result of the inspection. Checklists will be prepared for QC activities associated with each DFW. These checklists will be maintained by the Site CQC Specialist and will become part of the inspection reports. QC inspections and test results will be documented by the Site CQC Specialist in the daily CQC reports. Table 5-1, Summary of Cover Construction Quality Control Plan, Field Inspection and Control – All Earthwork, summarizes general earthwork field inspection and control measures.

5.1.1 Preparatory Inspections

A Preparatory Meeting, attended by the ERRG CQC team and the Navy ROICC, will be performed prior to beginning each DFW for any on-site activity. These inspections include review of submittal requirements and other contract requirements with supervisory personnel; verification that provisions have been made to provide required field control testing; examination of the work area to ascertain that all preliminary work has been completed; verification of field dimensions, lines, and grades; and physical examination of materials and equipment. In addition to inspections, a cursory review of the applicable Site Health and Safety Plan (SHSP) standards and Activity Hazard Analyses (AHAs) will be completed. Other inspections include the following:

- **Receiving Inspection** — Receiving inspections include a visual examination and accounting of materials obtained from suppliers upon arrival at the site. These inspections are performed to verify that the materials received meet design specifications, are free of defects, and have not been damaged in transit.
- **Calibration** — Calibration of laboratory and field testing equipment is performed on site and off site using standards traceable to National Institute of Standards and Technology (NIST) or other national standards, as appropriate. Calibration of equipment defines the accuracy of measurements taken and ensures that the instrumentation is in proper working condition.

- **Equipment Inspection** — Equipment inspections are performed to verify that all equipment is in proper working order.

5.1.2 Initial Inspections

Initial inspections are performed following the commencement of work on a specific DFW. The initial inspections include an examination of the quality of workmanship, a review of control testing for compliance with contract and work plan requirements and confirmation that the required AHAs are being followed. Inspection reports will be maintained by the Site CQC Specialist and submitted to the CQC Manager.

5.1.3 Follow-Up Inspections

Follow-up inspections are performed at appropriate intervals as the work progresses on any specific DFW to verify continuance of compliance with contract requirements and quality of workmanship confirmed during the preparatory and initial phases. The inspections continue until completion of the feature of the work. Inspection reports will be maintained by the Site CQC Specialist and submitted to the CQC Manager.

All inspections will be a matter of record and will be documented and maintained in accordance with DFCQCP or CQCPA requirements for record and document control. Forms used for recording noncompliance issues and an audit notification form are presented in Attachment 1.

5.2 Site Specific Field Testing

Site specific field testing is required for the following DFWs:

- Import Soil Confirmation
- Landfill Subgrade Preparation
- C1/C2 Excavation / Waste Consolidation
- C1/C2 Fill
- ET Cap Fill
- Geomembrane Installation
- Utility Abandonment
- Concrete/Shotcrete

QC testing will be conducted in accordance with the project specifications and the approved Sampling and Analyses Plan (SAP). Field and laboratory tests will be conducted on samples obtained during construction of the evapotranspiration soil cover. A summary of geotechnical tests required for the evapotranspiration soil cover is presented in Table 5-3. Sampling and testing procedures will be observed and documented by the Site CQC Specialist. Reporting and documentation will be in accordance with the submittal specification requirements.

5.2.1 Import Soil Confirmation

Imported soil will meet RDFDS (Earth Tech, 2005) and specifications. The imported soil will be tested by ASTM International, Inc. (ASTM) methods D4318, D422, D2487, D1557, D2216, and D5084 to assure that the imported soil meets design specifications. The soil samples will be collected at the source of the imported soil, soil samples will be submitted to the geotechnical lab for analyses, and the results will be forwarded to the Site QC Specialist.

5.2.2 Landfill Subgrade Preparation

The ERRG team will prepare the subgrade in accordance with the RDFDS (Earth Tech, 2005) prior to placement of the evapotranspiration soil cover material. The subgrade will be constructed to ensure that the following conditions are met:

- Lines and grades have been met and it is smooth without excessive rutting
- The subgrade has been properly moisture conditioned; it does not contain any deleterious materials such as large stones, large clods, debris, or organic material
- The subgrade will be field tested by ASTM methods D1556, D2216, D2922, and D3017 for soil density and moisture by nuclear density gauge and sand cone methods, respectively
- A registered professional engineer has verified that the subgrade soil meets the requirements set forth in the project specifications.

The Site CQC Specialist will prepare a certificate of acceptance upon completion of the subgrade. This certificate will be approved by the Project CQC Manager and submitted to the Navy ROICC. A summary of CQC geotechnical tests required for the common fill subgrade/foundation layer is presented in Table 5-2. The Site CQC Specialist, under the direction of the Project CQC Manager, will verify that the subgrade surface has been scarified prior to placement of the first lift of evapotranspiration soil cover.

5.2.3 C1/C2 Excavation/Waste Consolidation

The C1/C2 waste consolidation areas will be screened for the presence of volatile organic compounds (VOCs), methane, and radionuclides. Screening will be performed at a minimum of 2 times per hour using a photo ionization detector (PID), combustible gas meter, and sodium iodide detector for each type of respective test. The Technician will prepare daily calibration logs, figures, and test reports which will be submitted directly to the Site CQC Specialist.

The Site CQC Specialist will monitor the consolidated wastes and verify that:

- Wastes are commingled with soil and placed in lifts not to exceed two feet in thickness

- Waste and soil are compacted by a steel-wheeled compactor making at least 4 passes per lift
- Fill areas have been properly moisture conditioned
- Solid Waste larger than 12-inches will not be placed in the upper 3-feet of the consolidated waste.

5.2.4 C1/C2 Fill

The ERRG team will prepare the subgrade of the C1/C2 fill areas in accordance with the RDFDS (Earth Tech, 2005) prior to placement of the C1/C2 fill material. The subgrade will be constructed to ensure that the following conditions are met:

- Lines and grades have been met and it is smooth without excessive rutting
- The C1/C2 subgrade fill areas have been properly moisture conditioned; it does not contain any deleterious materials such as large stones, large clods, debris, or organic material
- The C1/C2 subgrade area will be field tested by ASTM methods D1556, D2216, D2922, and D3017 for soil density and moisture by nuclear density gauge and sand cone methods, respectively
- A registered professional engineer has verified that the C1/C2 subgrade soil meets the requirements set forth in the project specifications.

The Site CQC Specialist will prepare a certificate of acceptance upon completion of the C1/C2 subgrade. This certificate will be approved by the Project CQC Manager. A summary of CQC geotechnical tests required for the common fill subgrade/foundation layer is presented in Table 5-2. The Site CQC Specialist, under the direction of the Project CQC Manager, will verify that the subgrade surface has been scarified prior to placement of the first lift of evapotranspiration soil cover.

5.2.5 Evapotranspiration Cap Fill

QC testing will be conducted in accordance with the project specifications and the approved SAP. Field and laboratory tests will be conducted on samples obtained during construction of the evapotranspiration soil cover. A summary of geotechnical tests required for the evapotranspiration soil cover is presented in Table 5-3. Sampling and testing procedures will be observed and documented by the Site CQC Specialist. Reporting and documentation will be in accordance with the submittal specification requirements. The finished grades will be constructed to ensure that the following conditions are met:

- Lines and grades have been met and it is smooth without excessive rutting

- The Cap Fill finished grade fill areas have been properly moisture conditioned; it will be of a homogenous material and contain any deleterious materials, clumps greater than ¾ inches, debris, or organic material
- The finished grade area will be field tested by ASTM methods D1556, D2216, D2922, and D3017 for soil density and moisture by nuclear density gauge and sand cone methods, respectively and permeability testing will be conducted using BAT® system testing methods
- The finished grade area will be field tested for hydraulic conductivity by ASTM method D5084, in association with geotechnical tests D422, D2216, and D4318
- A registered professional engineer has verified that the Cap Fill finished grade soil meets the requirements set forth in the project specifications.

The Site CQC Specialist will prepare a certificate of acceptance upon completion of the Cap Fill finished grade. This certificate will be approved by the Project CQC Manager prior to the installation of the top soil and vegetative cover.

5.2.6 Geomembrane Installation

The top of the geomembrane will be anchored in trenches and covered with compacted soils that will be field tested using ASTM methods D1556, D2216, D2922, and D3017 for soil density and moisture by nuclear density gauge and sand cone methods, respectively.

During placement of the dual-sided, textured geomembrane panels, the Site CQC Specialist will maintain up-to-date logs documenting panel and roll numbers, seam numbers, test locations and results, repair locations and results, and nondestructive testing information. The geomembrane liner will be constructed to ensure that the following conditions are met:

- Records of general weather conditions will be kept to ensure that the geomembrane will not be deployed in the presence of excess moisture, temperatures less than 32°F, or windy conditions that could lift or move the panels
- Subgrade beneath panels will be free of stones, debris, and survey stakes
- Observe the geomembrane surface as it is deployed and record all panel defects and repair of the defects (panel rejected, patch installed, extrudate placed over the defect, etc.) on the repair sheet. All repairs must be made in accord with the RDFDS
- Seam welding equipment will be peel and shear tested at least twice a day and trial welds must meet specified requirements for peel and shear and the break must be ductile or a film tearing bond (FTB) for a wedge weld
- Nondestructive tests for the geomembrane, which include vacuum testing and air-pressure testing, must be performed over the entire length of the seams constructed on site.

- A minimum of one test per 500 feet of welded seam length. This is an average frequency for the entire installation; individual samples may be taken at greater or lesser intervals. However, if the number of failed samples exceeds 5 percent of the tested samples, this frequency may be increased at the discretion of the Site CQC Specialist. Samples taken as the result of failed tests do not count toward the total number of required tests.
- CQC destructive samples must be shipped to the laboratory to verify seam quality. Testing includes bonded seam strength and peel adhesion. Test at least five specimens from each sample in each method used. Minimum test values are presented in the specifications section of the RDFDS.

5.2.7 Utility Abandonment

The concrete slurry used to fill the abandoned waterline will be backfilled with a 2-sack grout slurry mix. Temperature testing will be supplied during backfill.

5.2.8 Concrete/Shotcrete

The Site CQC Specialist, under the direction of the Project CQC Manager, will verify that the installation of concrete in association with specific appurtenances is performed in accordance with the project specifications. Field testing using temperature methods and ASTM methods C143, C94 and C31 will be conducted or observed by the Site CQC Specialist. Appurtenances include the following:

- V-ditch
- Splash wall
- Trapezoidal channel road crossing
- Fencing
- Survey monument

5.3 Documentation and Reports

The Quality Control Report will serve as the basic document for recording CQC efforts. The Quality Control Report form will provide detailed information on job site location, work performance, weather conditions, types and results of inspections performed, locations and descriptions of deficiencies, deficiencies corrected, and other comments. The Quality Control Report form will be filled out and signed by the Site CQC Specialist. Quality Control Reports will be submitted to the Navy on a daily basis. Quality Control Report logs for a specific week, in combination with a cover sheet, will be submitted to the RWQCB on Thursday during the weekly site meeting. If a RWQCB representative is unable to attend a specific meeting the logs for that week will be faxed to the RWQCB.

5.3.1 Documentation

In addition to the Quality Control Report, the following documents will be used for reporting on-site activities:

- **Site Safety Documentation** — Site safety documentation procedures are presented in the SHSP. Documentation of Health and Safety Plan acceptance and daily safety briefings will be maintained.
- **Daily Notes** — Internal daily notes will be kept for all site activities. These notes generally will be recorded on the ERRG team's standard daily notes form or in a bound notebook. Separate notebooks can be kept for different tasks. The notes will be recorded daily by the Site Superintendent (SS) or designee and will be used to prepare the daily Production Report.
- **Daily Production Report to Navy ROICC** — The SS or designee will prepare a daily production report to the Navy ROICC, including a description of trades working on the project, the number of personnel working, use of major equipment, and delivery of major items.
- **As-Built Drawings** – As-Built drawings will be prepared following the construction to document the final “as-built” conditions.

5.3.2 Construction Quality Control Submittals

In addition to Quality Control Reports, specific submittals are required by the remedial action design specifications (Earth Tech, 2005) as part of the CQC requirements. As discussed in Section 4.0, these submittals will be completed in accordance with the format identified in the specifications.

6.0 Change/Modification Control

This section presents procedures for changes and modifications to the work.

6.1 Scope Change

A scope change and/or modification is required for changes that impact project requirements. Scope modifications can be necessitated by changes in on-site conditions that affect the performance of the work or as a result of a request by the Navy for additional work not identified in the scope of work. Either the ERRG team or the Navy can initiate a change notice. When a modification to the work is required, the ERRG team will submit schedule and cost impact information for each proposed change as quickly as possible after identification of the changed condition.

The steps for initiating a scope modification resulting from changed field conditions are as follows:

- The SS will be notified immediately by field personnel of any changed condition.
- The SS will direct the preparation of a detailed description of the changed condition and its expected effect on the performance and cost of the task. This information will be promptly forwarded to the Project Manager for review and approval prior to submittal to the Navy ROICC representative, Navy RPM, and Contracting Officer for approval.
- Upon review and concurrence by the Navy ROICC, the Contracting Officer will be provided with written notification that a changed condition has or will occur.
- The ERRG team will negotiate the scope modification with the Contracting Officer.
- The additional scope will not be performed without prior written authorization from the Contracting Officer.

6.2 Design Change/Field Change

A design change can be made by either the remedial design contractor or initiated by the ERRG team as a field change. A design change by the design contractor will be issued through the Navy Contracting Officer or designee. Any field change initiated by the ERRG team will be prepared by the Project CQC Manager, with a detailed description of the changed conditions. The change request will be submitted through the Navy RPM to the design contractor for review and approval. If the field change could also impact the scope and budget of the project, a scope change, as described in Section 6.1, will also be submitted for review and approval.

7.0 Nonconformance/Corrective Action

Nonconforming items and activities are those items or activities that do not meet project requirements. When such a condition is identified, the ERRG team will implement a corrective action program to achieve the following:

- Document the nonconforming item or activity and determine the cause of the nonconformance and its effect on project performance and the integrity of completed work
- Correct or replace the nonconforming item in the most efficient and effective manner
- Verify and document that the corrective action taken is successful.

7.1 Documentation of Nonconforming Items

The Site CQC Specialist will document any nonconformance item on the CQC daily report to clearly state what is not in compliance, the date on which the noncompliance was originally discovered, and the date on which the work was corrected.

7.2 Implementation of Corrective Action

The ERRG team will stop work on any item or feature pending satisfactory correction of any deficiency noted by the SS, Site CQC Specialist, Site Health and Safety Officer (SHSO), or Navy ROICC representative. The SS, Site CQC Specialist, or SHSO will have the authority to stop work until corrective actions are implemented. In some cases where the corrective action is obvious, it can be implemented immediately upon identification of the nonconformance. Other circumstances could require additional input from technical or operations staff, additional equipment and materials, or changes in existing structures or completed work. The Site CQC Specialist will not allow work to be added to or built upon nonconforming work unless the Navy ROICC representative concurs that the correction can be made without disturbing continuing work.

If a laboratory procedure or result is found to be in noncompliance, the result will not be considered valid. The following are some of the steps that could be taken to correct a laboratory procedure or result that does not comply with project requirements:

- Recalibration or preparation of new standards, spiking solutions, or reagents if such procedures are not in compliance with project requirements
- Instrument maintenance or repair
- Sample dilution

- Retraining or reassigning personnel
- Sample reanalysis.

7.3 Verification and Documentation of Corrective Action

Successful completion of corrective actions for nonconformances will be verified by the Site CQC Specialist during a follow-up inspection. The QC Report will reflect all corrective actions completed. Recurring nonconformances of a similar nature will be investigated to determine the root cause of the problem in order to eliminate or minimize future occurrences of the nonconformance.

8.0 References

Earth Tech, Inc., 2002, *Draft Final Construction Quality Control Plan, Remedial Action, Operable Unit 2B, Landfill Sites 2 and 17*, July.

Earth Tech, Inc., 2005, *Revised Draft Final Design Submittal, Remedial Action Operable Unit 2B, Landfill Sites 2 and 17, Marine Corps Air Station El Toro, California*, September.

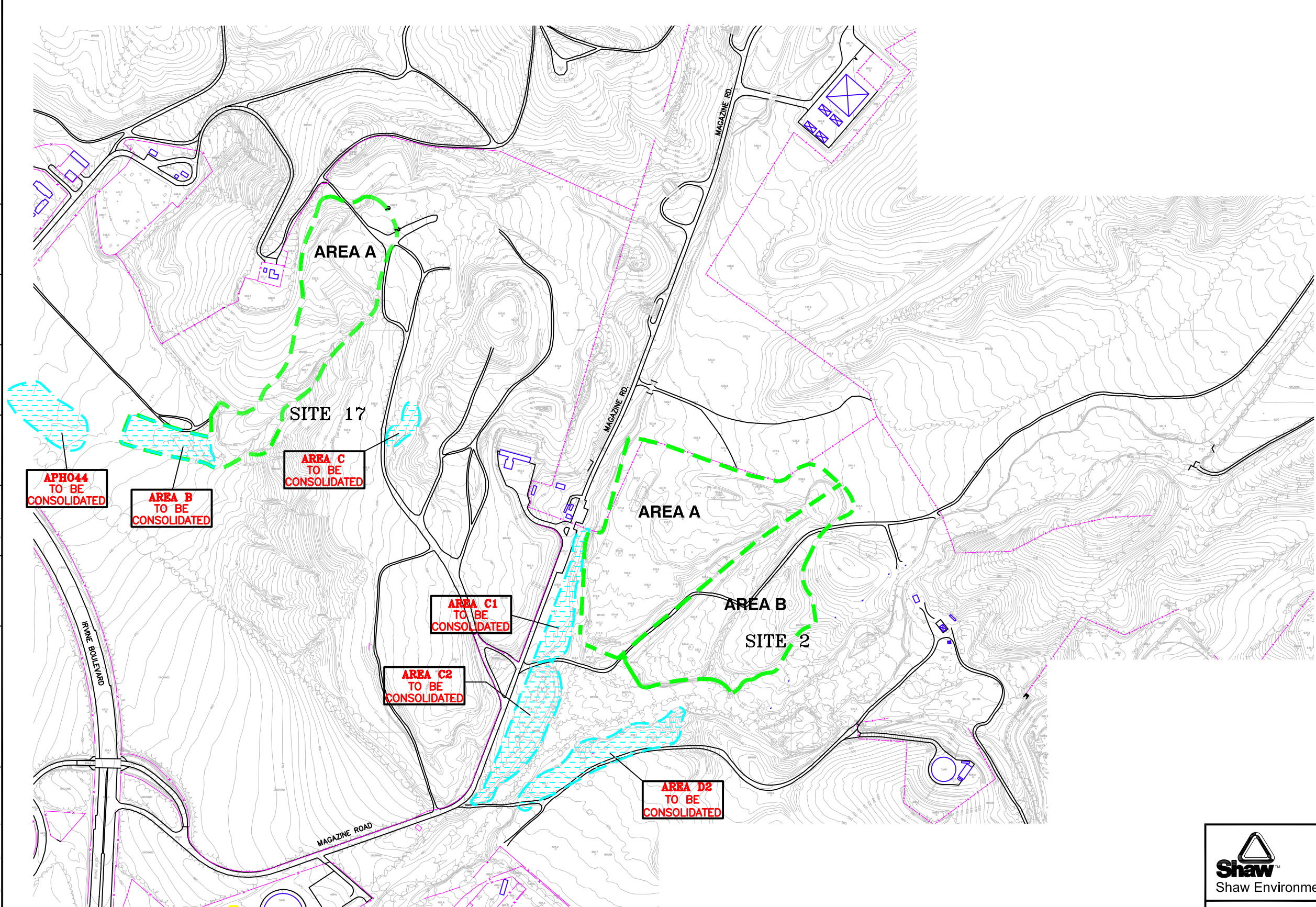
Engineering/Remediation Resources Group, Inc., 2005, *Final Remedial Action Site Work Plan, Rev. 1*, October.

ERRG, see Engineering/Remediation Resources Group, Inc.

Naval Facilities Engineering Command Southwest, 2000, *Final Interim Record of Decision Operable Unit 2B Landfill Sites 2 and 17, Marine Corps Air Station El Toro, California*, April.

Navy, see Naval Facilities Engineering Command Southwest.

Figures



EXPLANATION

CHAIN LINK FENCE

BUILDINGS

ROADS

MAIN LANDFILL BOUNDARY

WASTE BOUNDARY

AREA OF WASTES TO BE CONSOLIDATED INTO MAIN LANDFILL

SCALE

0

500

1000 FEET

Shaw Environmental, Inc.

ERRG

SOUTHWEST DIVISION

NAVAL FACILITIES ENGINEERING COMMAND

CONTRACT NO. N68711-01-D-6015/16

FIGURE 1-1

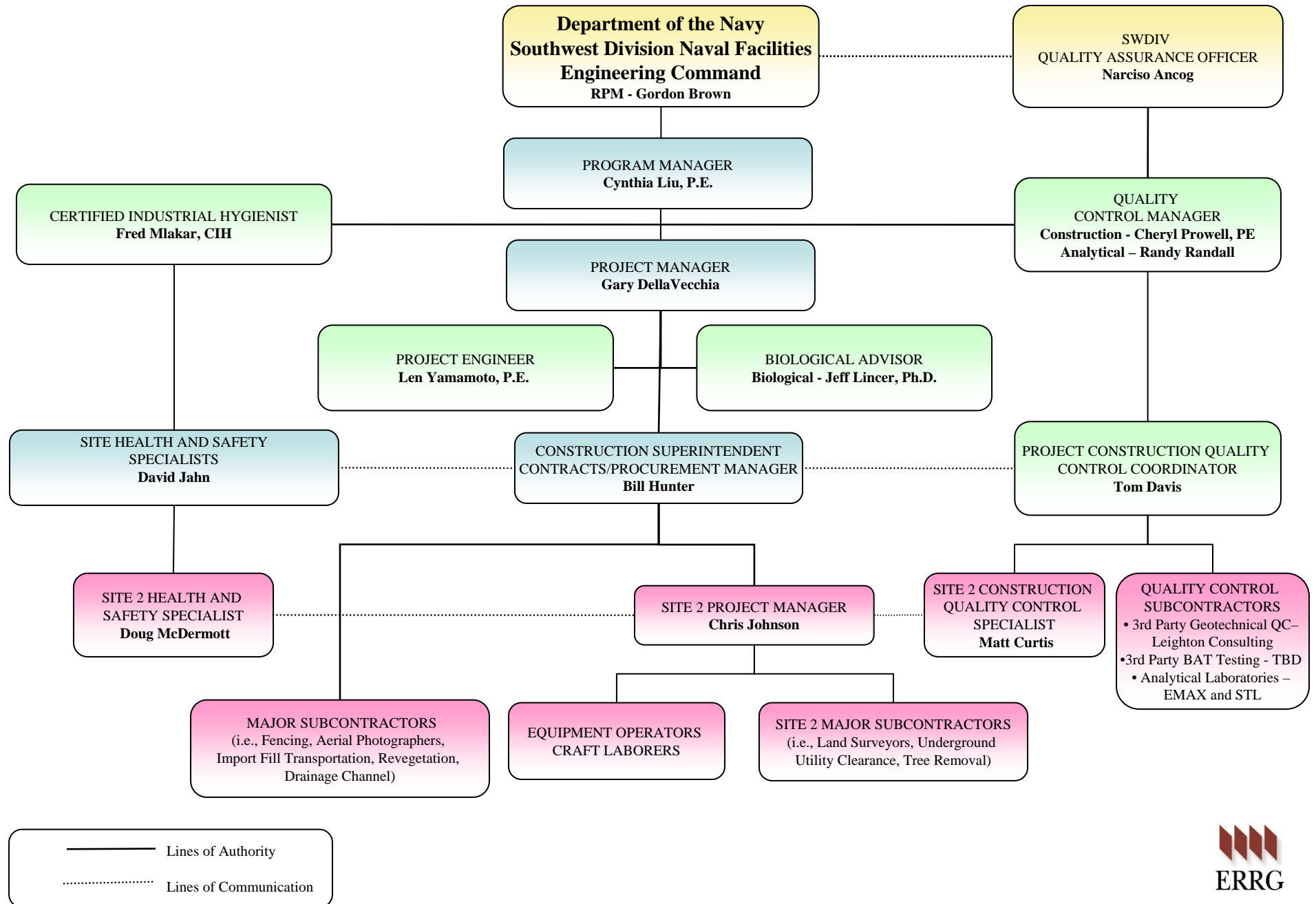
REMEDIAL ACTION SITE MAP

SITES 2 & 17

FORMER MARINE CORPS AIR STATION

EL TORO, CALIFORNIA

Figure 2-1: Project Organizational Chart



Tables

Table 2-1
Project Personnel Roles and Responsibilities

Key Positions/Proposed Team Member	Responsibility
Project Manager Gary Della Vecchia.	<p>Represent project team and interface with the Navy</p> <p>Promptly notify the Navy of changed field conditions</p> <p>Provide project leadership</p> <p>Provide information to the Navy on project progress and percent of completion</p> <p>Develop and prepare all aspects of contract deliverables with other project personnel</p> <p>Maintain regular contact with contract manager and report progress</p> <p>Allocate budget among work elements as identified in the work plan</p> <p>Approve/disapprove any technical deliverable for each work element</p> <p>Assign all project personnel</p>
Certified Industrial Hygienist Fred Mlakar, CIH	<p>Review and approve site-specific health and safety plan</p> <p>Provide health and safety training to project staff</p> <p>Provide technical consultation and guidance regarding site health and safety issues</p> <p>Review air-monitoring and noise-monitoring results</p> <p>Review and audit safety practices at site</p> <p>Change work practices to ensure worker safety, and stop work that poses a threat to personnel</p>
Quality Control Manager Cheryl Prowell, PE	<p>Ensure that project-specific QC requirements are met</p> <p>Provide QC training to project staff</p> <p>Review and approve project QC plans</p> <p>Verify corrective actions have been completed successfully</p> <p>Maintain QC documentation in project files</p> <p>Direct project QC specialists, as required</p> <p>Stop project-level work for non-compliance with QC requirements</p> <p>Initiate and document field design modifications or design changes</p> <p>Prepare quality control plans and inspection system</p> <p>Monitor/audit field/laboratory operations to ensure compliance with CQCP procedures</p> <p>Identify and implement corrective actions</p> <p>Ensure that quality control problems are resolved in an expeditious manner and identified to construction manager</p> <p>Assist with preparation and submittal of contract modifications</p> <p>Review subcontract awards and subcontract amendments for compliance with contractual procedures</p> <p>Resolve contractual issues</p> <p>Review contractual progress reports submitted to the Navy</p> <p>Stop project-level work for non-compliance with contractual requirements</p> <p>Direct project task managers with contractual requirements, as needed</p>

Table 2-1 (Continued)
Project Personnel Roles and Responsibilities

Key Positions/Proposed Team Member	Responsibility
Project Construction Quality Control Coordinator Thomas Davis	<p>Prepare quality control field documentation</p> <p>Maintain QC documentation in the field</p> <p>Ensure that adequate quality control documentation is provided by subcontractors and material and equipment suppliers</p> <p>Review specifications for subcontractor and equipment procurement</p> <p>Conduct unannounced audits of field/laboratory procedures</p> <p>Review and approve/disapprove all field/laboratory data</p> <p>Stop field/laboratory operations that are not in compliance with design plans and specifications and CQCP</p> <p>Ensure that specified inspections and tests are performed</p>
Project Engineer Len Yamamoto, P.E.	<p>Assist project manager in resolving technical issues (i.e., design discrepancies, field modifications, etc.)</p> <p>Review implementation of design and suggest value engineering approaches</p> <p>Assist project task managers with technical design changes</p>
Technical Advisors Jeff Lincer, Ph.D.	<p>Assist project manager in resolving biological issues</p> <p>Perform biological monitoring</p> <p>Assist project manager with implementation of biological related requirements</p>

Table 2-1 (Continued)
Project Personnel Roles and Responsibilities

Key Positions/Proposed Team Member	Responsibility
Construction Superintendent Contracts/Procurement Manager Bill Hunter	Act as construction site representative for interfacing with the Navy and third-party contractors Plan and manage construction staff resources for all operational work efforts Supervise the performance of construction operations Ensure adherence to CQCP, SHSP, and SWP Resolve issues in the field and communicate with project manager on daily progress Provide information for reporting daily labor and equipment charges Maintain daily activity logs of daily production rate and compile documentation of work performed Coordinate logistics between operations Ensure adequacy of equipment, supplies, and personnel Direct supervision of field personnel including subcontractors Responsible for subcontractor compliance with work plan and QC protocols Recommend corrective action to construction manager in event of problems in subcontractor performance Execute work according to the project schedule, prioritizing critical path items Ensure that specified inspections and tests are performed Coordinate construction activities and assist task managers with supporting construction manager in project control and budget use Shut down construction operations because of observed safety hazard or failure to comply with CQCP and SHSP Approve/disapprove all materials and labor costs for site operations Identify changed field conditions and promptly notify project manager Develop and prepare specifications for subcontractor and equipment procurement with other project personnel Track budget among work elements as identified in the work plan Approve/disapprove all labor, materials, equipment, and subcontractor charges to project Assist the project manager to enforce work element milestones for the timely completion of delivery order Communicate with Navy as to day-to-day progress and direct all construction activities Assist the project manager with management of all field project personnel Overall responsibility for contract administration related to acquisition of supplies, services, materials, and equipment for project execution
Site Health and Safety Specialist David Jahn	Implement the SHSP Enforce safe work and hygiene practices Monitor field procedures to ensure compliance with SHSP Establish and maintain restricted work areas Brief all field/laboratory personnel regarding special hazards that may be

Table 2-1 (Continued)
Project Personnel Roles and Responsibilities

Key Positions/Proposed Team Member	Responsibility
	<p>associated with project operations</p> <p>Monitor the labeling, shipping, and control of hazardous or potentially hazardous samples</p> <p>Monitor field/laboratory safety procedures</p> <p>Conduct daily safety meetings prior to the beginning of each work day</p> <p>Conduct daily safety inspections and unscheduled safety audits</p> <p>Coordinate site health and safety requirements with project superintendents and task managers</p> <p>Collect all required air, noise, and personnel monitoring data</p> <p>Report all health and safety monitoring results to CIH</p> <p>Require proper use of personal protective equipment</p> <p>Ensure maintenance of all health and safety monitoring and personnel protective equipment</p> <p>Maintain a first aid kit and provide first aid</p> <p>Notify the proper response agency in the event of an emergency</p> <p>Complete the necessary record keeping</p> <p>Support the Certified Industrial Hygienist on project health and safety issues</p> <p>Shut down field operations if a deviation from SHSP is identified</p> <p>Recommend field modifications to improve worker health and safety</p>

CIH – Certified Industrial Hygienist

CQCP – Construction Quality Control Plan

QA – quality assurance

QC – quality control

RPM – Remedial Project Manager

SHSP – Site Health and Safety Plan

Navy –Naval Facilities Engineering Command Southwest

Table 5-1
Summary of Cover Construction Quality Control Plan
Field Inspection and Control — All Earthwork

Activities	Field Inspection			Field Control		
Method	Visual observation	Visual observation	Visual observation	Survey	Survey	Variance Analysis
Procedure	Field notes	Field notes	Field notes	Survey notes	Certified survey report	Variance report
Purpose	Documentation of fill placement process	Verification of fill material quality	Verification of adequate field action to prevent desiccation cracks and to ensure bonding between lifts	Verification of lines and grades during grading	Verification of final as-built condition	Documentation of variance
Frequency	Continuous, one (min) summary per day for each type of construction activity	Continuous during fill placement	Continuous during fill placement	Continuous, one (min) summary per day during grading work	One for each finished product	One report per variance
Criteria	Not applicable Notes to include (min) equipment used, area worked, daily production, QC activities, testing/sampling performed, and variance/nonconformance observed	No deleterious materials such as vegetation, decomposed sludge, or irreducible matter larger than 3 inches in all dimensions	No visible desiccation cracks or inadequate bonding between lifts	+ 0.10 foot of the design line and grade (no minus tolerance is permitted)	As-built map shall have enough detail to describe the finished grades and lines of the product	Approved by design manager or designated design engineer
Performer	Site CQC Specialist	Site CQC Specialist	Site CQC Specialist	Certified surveyor	Certified surveyor	Site CQC Specialist

CQC –Construction Quality Control

Table 5-2
Summary of Cover Construction Quality Control Plan –
Field and Laboratory Geotechnical Testing for Common Fill/Foundation Layer/Subgrade

Activities	Field Tests		Laboratory Tests
Test Method	ASTM D2922-04 ASTM D3017-04	ASTM D1556-00 or ASTM D2167-94	ASTM D1557-02e1
Procedure	Field nuclear gage moisture/density test	Field sand cone density test	Laboratory modified Proctor compaction
Purpose	Verification of in-place soil compaction effort	Confirmation of nuclear gage density test	Verification of soil density characteristics
Test Frequency	Test each lift every 100 feet of linear grade for drainage structures and 4 tests per 1,000 yd ³ for common fill	Test at beginning of job and for every 20 tests taken by ASTM D2922-04/ASTM D3017-04	Test each lift every 100 feet of linear grade for drainage structures and every 5,000 yd ³ for common fill
Criteria	90% of maximum dry density content plus or minus 2% optimum moisture	90% of maximum dry density content plus or minus 2% optimum moisture	90% of maximum dry density content plus or minus 2% optimum moisture
Section	3.10.1, 3.10.2; DFCQC 7.3.4	3.10.1, 3.10.2; DFCQC 7.3.4	3.10.1, 3.10.2; DFCQC 7.3.4
Performer	Site CQC Specialist	Site CQC Specialist	Site CQC Specialist Geotechnical Laboratory

(From Remedial Design Specification, Sites 2 and 17, Former MCAS El Toro.)

ASTM – ASTM International, originally known as the American Society for Testing and Materials

yd³ – cubic yards

CQC – Construction Quality Control

Table 5-3
Summary of Cover Construction Quality Control Plan –
Field and Laboratory Geotechnical Testing for Evapotranspiration Soil Cover

Activities	Field Tests		Laboratory Tests						
Test Method	ASTM D1556-00 or ASTM D2167-94	ASTM D2922- 04 & ASTM D3017-04	ASTM D1557-02e1	ASTM D422-63	ASTM D2487-00	ASTM D4318-00	ASTM D2216-05	ASTM D5084-03	BAT®
Procedure	Field density	Field moisture content (rapid)	Laboratory compaction	Laboratory particle size	Laboratory soil classification	Laboratory Atterberg limits	Laboratory moisture content	Laboratory hydraulic conductivity	Field/Lab Permeability
Purpose	Field density	Verification of soil moisture	Verification of field testing	Laboratory particle size	Laboratory soil classification	Liquid limit, plastic limit, and plasticity index of soils	Verification of soil moisture	Laboratory hydraulic conductivity	In-situ hydraulic conductivity
Test Frequency	1 for every 20 tests by methods ASTM D2922- 04, ASTM D3017-04, minimum 1 per day	4 tests per 1,000 yd³. Minimum 4 tests per day	1 test per every 5,000 yd³ or change in material type	1 per 5,000 yd³ from borrow source 1 per acre per lift upon placement	1 test per 5,000 yd³ and at change of soil type to confirm borrow soil type (USCS)	1 per 5,000 yd³ or change of material	1 per acre per lift	1 per acre per lift	1 per 5,000 yd³
Criteria	Minimum 90% dry density and a moisture content ± 2%.		Upper 4 feet to 90% Optimum moisture content ± 2%.	95±5% passing No. 4	Classification of SC or s(CL)	Liquid Limit of 35±10, maximum Plasticity Index of 35		Saturated hydraulic conductivity of 2x10(-5) cm/s or less when compacted to a minimum 90% dry density optimum moisture content ± 2%.	Saturated hydraulic conductivity of 1x10(-7) cm/s or less when compacted to a minimum 90% dry density optimum moisture content ± 2%.

Table 5-3 (Continued)
Summary of Cover Construction Quality Control Plan –
Field and Laboratory Geotechnical Testing for Evapotranspiration Soil Cover

Activities	Field Tests		Laboratory Tests						
Section	3.12.2.5 DFCQC 7.3.4	3.12.2.5 DFCQC 7.3.4	2.2.4, 3.10.3 3.12.2.3 DFCQC 7.3.4	3.12.2.5 DFCQC 7.3.4	2.2.4	2.2.4 3.12.2.3, 3.12.2.5	3.12.2.5	3.12.2.5	3.12.2.5
Performer	Site CQC Specialist	Site CQC Specialist	Site CQC Specialist Geotechnical Laboratory	Site CQC Specialist Geotechnical Laboratory	Site CQC Specialist Geotechnical Laboratory	Site CQC Specialist Geotechnical Laboratory	Site CQC Specialist Geotechnical Laboratory	Site CQC Specialist Geotechnical Laboratory	Geotechnical Laboratory

(From Draft Final Remedial Design Specification, Sites 2 and 17, Former MCAS El Toro.)

ASTM – ASTM International, originally known as the American Society for Testing and Materials

cm/s – centimeters per second

S(CL) – Sandy Clay

USCS – Unified Soil Classification System

yd³ – cubic yard

μm – micrometers

CQC – Construction Quality Control

Attachment 1 Report Forms

CONTRACTOR PRODUCTION REPORT

(ATTACH ADDITIONAL SHEETS AS NECESSARY)

Week Ending

CONTRACT NO. N68711-01-D-6016	TITLE AND LOCATION MCAS El Toro Site 2	REPORT NO.
CONTRACTOR Shaw Environmental, Inc.	SUPERINTENDENT	

WORK PERFORMED THIS WEEK

WORK LOCATION & DESCRIPTION	EMPLOYER	NO.	TRADE	HOURS
Abandon Monitoring Wells at Site 2, in Areas C1 and C2	Shaw		Supt For EO TD RT Geo Eng PM SSO	
	Shaw	1		9.0
	Shaw	1		2.0
EXAMPLE				
SUBCONTRACTORS Gregg Drilling	Gregg	3	Drl	25.5

The hours listed represent field work only

JOB SAFETY	WERE JOB SAFETY MEETINGS HELD THIS WEEK? (If YES attach copy of the meeting minutes)	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	TOTAL HOURS WORKED ON JOB SITE THIS DATE	37
	WERE THERE ANY LOST TIME ACCIDENTS THIS WEEK? (If YES attach copy of completed OSHA report)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CUMULATIVE TOTAL OF WORK HOURS FROM PREVIOUS REPORT	166
	WAS TRENCHING/SCAFFOLDING/HV ELECTRIC/HIGH WORK DONE? (If YES attach statement or checklist showing inspection performed)	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	TOTAL WORK HOURS FROM START OF CONSTRUCTION	203

LIST SAFETY ACTIONS TAKEN THIS WEEK/SAFETY INSPECTIONS CONDUCTED	X	SAFETY REQUIREMENTS HAVE BEEN MET
------------------------------------------------------------------	----------	-----------------------------------

Health and Safety Meetings are held prior to field activities

EQUIPMENT RECEIVED THIS WEEK TO BE INCORPORATED IN JOB.

None

CONSTRUCTION & PLANT EQUIPMENT ON JOB SITE THIS WEEK. INCLUDE NUMBER OF HOURS USED THIS WEEK.

REMARKS

CONTRACTOR/SUPERINTENDENT

DATE

DATE			
NO.			
SHEET		of	

FIELD ACTIVITY DAILY LOG

PROJECT NAME:		PROJECT NO.	
FIELD ACTIVITY SUBJECT:			
DESCRIPTION OF DAILY ACTIVITIES AND EVENTS:			
VISITORS ON SITE:		CHANGES FROM PLANS AND SPECIFICATION, AND OTHER SPECIAL ORDERS AND IMPORTANT DECISIONS.	
WEATHER CONDITIONS:		IMPORTANT TELEPHONE CALLS:	
IT PERSONNEL ON SITE:			
SIGNATURE		DATE:	

RFI Log

Number	Date	Title	Remedy
0001			
0002			
0003			
0004			
0005			
0006			
0007			
0008			
0009			
0010			
0011			
0012			
0013			
0014			
0015			
0016			
0017			
0018			
0019			
0020			

CONTRACT NUMBER: SWDIV N68711-01-D-6013 Task Order #0005	<h1 style="margin: 0;">REQUEST FOR INFORMATION</h1>	RFI No.: <div style="text-align: center;">RFI-0000</div>
CONTRACTOR/SUPPLIER: ERRG / Shaw Environmental Inc.	DRAWING SHEET: SPEC. SECTION:	DRAWING DETAIL: SPEC. PARA: N/A
TITLE/SUBJECT:		
ISSUED BY: Tom Davis, ERRG - CQC DIPLOMAT and Matthew Curtis, Shaw E&I – Site CQC Specialist		
DESCRIPTION OF PROBLEM:		
DESCRIPTION OF REMEDY: No adverse cost impacts are anticipated		
_____ Date	_____ ERRG, General Contractor	_____ Date
_____ Shaw Environmental, Subcontractor		
FROM: TO: CONTRACTOR		
_____ Date		
_____ BY DIRECTION		
_____ Response may involve additional costs or time. If you feel additional costs or time is warranted, do not proceed without a contract modification. RFP to follow. _____ Response is provided on the presumption of no increase in contract price or time. If additional costs or time is warranted, do not proceed without a contract mod.		

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE <small>(Read Instructions on the reverse side prior to initiating this form)</small>				DATE	TRANSMITTAL NO.																
Section I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS <i>(This Section will be initiated by the contractor)</i>																					
TO: U.S. Department of Navy Naval Facilities Engineering Command Southwest 1220 Pacific Highway San Diego, CA 92132-5190 Attn:	FROM: ERRG 185 Mason Circle, Suite A Concord, CA 94520	CONTRACT NO. N68711-01-D-6016 TO: # 0004 - 0007	CHECK ONE: <input type="checkbox"/> THIS IS A NEW TRANSMITTAL <input type="checkbox"/> THIS IS A RESUBMITTAL OF TRANSMITTAL																		
PROJECT TITLE AND LOCATION:																					
SPECIFICATION NO. (Cover only one section with each transmittal)	DESCRIPTION OF ITEM SUBMITTED <small>(Type, size, model number, etc.)</small> <div style="text-align: center;">b.</div>	NO. OF COPIES <div style="text-align: center;">d.</div>	MFG. OR CONTR. CAT. CURVE DRAWING OR BROCHURE NO. <small>(See Instruction No. 8)</small> <div style="text-align: center;">c.</div>	CONTRACT REFERENCE DOCUMENT <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">SPEC. PARA. NO. <div style="text-align: center;">e.</div></div> <div style="width: 45%;">DRAWING SHEET NO. <div style="text-align: center;">f.</div></div> </div>	FOR CONTRACTOR USE CODE <div style="text-align: center;">g.</div>	VARIATION <small>(See Instruction No. 6)</small> <div style="text-align: center;">h.</div>	FOR C E USE CODE <div style="text-align: center;">i.</div>														
REMARKS cc: Central Files Project Files QUALITY CONTROL MANAGER IT CORPORATION _____ Approved with corrections as noted on submittal data and/or attached sheet(s). SIGNATURE: TITLE: DATE:		I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated. IT Corporation																			
						NAME AND SIGNATURE OF CONTRACTOR															
								NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY													
										DATE											
												ENCLOSURES RETURNED (List by Item No.)									
														Section II - APPROVAL ACTION							
																NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY					
																		DATE			
																				ENCLOSURES RETURNED (List by Item No.)	
NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY																					
		DATE																			
				ENCLOSURES RETURNED (List by Item No.)																	

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No." This number, in addition to the contractor number, will form a serial number for identifying each submittal. For new submittals or resubmittals, mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288 for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal forms will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications — also, a written statement to that effect shall be included in the space provided for "Remarks."
7. Form is self-transmittal; letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers' approving authority will assign action codes as indicated below in space provided in Section I, column I, to each item submitted. In addition, they will ensure enclosures are indicated and attached to the form prior to return to the Contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A — Approved as submitted.</p> <p>B — Approved, except as noted on drawings.</p> <p>C — Approved, except as noted on drawings.
Refer to attached sheet: resubmission required.</p> <p>D — Will be returned by separate correspondence.</p> | <p>E — Disapproved (See attached).</p> <p>F — Receipt acknowledged.</p> <p>FX — Receipt acknowledged. Does not comply as noted with contract requirements.</p> <p>G — Other (Specify).</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
10. Approval of items does not relieve the Contractor from complying with all the requirements of the contract plans and specifications.

**TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR
MANUFACTURER'S CERTIFICATES OF COMPLIANCE**
(Read Instructions on the reverse side prior to initiating this form)

(Read Instructions on the reverse side prior to initiating this form)

TRANSMITTAL NO.

DATE _____

Section I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS (This Section will be initiated by the contractor)

TO: Engineering Field Activity, West
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

Attn:

FROM: IT Corporation
4005 Port Chicago Highway
Concord, CA 94520

CONTRACT NO.
N62474-98-D-2076

CTO, #

CHECK ONE:

☐ THIS IS A NEW TRANSMITTAL

☐ THIS IS A RESUBMITTAL OF TRANSMITTAL

SPECIFICATION NO. (Cover only one section with each transmittal)	PROJECT TITLE AND LOCATION:

PROJECT TITLE AND LOCATION:

DESCRIPTION OF ITEM SUBMITTED
(Type, size, model number, etc.)

—THE NO. 2

५

MFG. OR CONTR.
CAT., CURVE
DRAWING OR
BROCHURE NO.
(See *Instruction No. 8*)
c.

6

**CONTRACT REFERENCE
DOCUMENT**

SPEC. PARA. NO.

DRAWING SHEET NO.

DRAWING
SHEET NO.

NO. OF
COPIES

५

FOR
CONTRACT

5

VARIATION
(See **VARIATION**)

h.

FOR C

1

REMARKS
cc: Central Files
Project Files

QUALITY CONTROL MANAGER
IT CORPORATION
Approved

Approved _____ Approved with corrections as noted on submittal data and/or attached sheet(s).

SIGNATURE:
TITLE:
DATE:

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as otherwise stated.

NAME AND SIGNATURE OF CONTRACTOR

Section II – APPROVAL ACTION

ENCLOSURES RETURNED (List by Item No.)

NAME: TITLE AND SIGNATURE OF APPROVING AUTHORITY

DATE _____

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.
2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No." This number, in addition to the contractor number, will form a serial number for identifying each submittal. For new submittals or resubmittals, mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.
3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288 for each entry on this form.
4. Submittals requiring expeditious handling will be submitted on a separate form.
5. Separate transmittal forms will be used for submittals under separate sections of the specifications.
6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications — also, a written statement to that effect shall be included in the space provided for "Remarks."
7. Form is self-transmittal; letter of transmittal is not required.
8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.
9. U.S. Army Corps of Engineers' approving authority will assign action codes as indicated below in space provided in Section I, column I, to each item submitted. In addition, they will ensure enclosures are indicated and attached to the form prior to return to the Contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

- | | | |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|--|
| A — Approved as submitted. | E — Disapproved (See attached). | |
| B — Approved, except as noted on drawings. | F — Receipt acknowledged. | |
| C — Approved, except as noted on drawings.
Refer to attached sheet: resubmission required. | FX — Receipt acknowledged. Does not comply
as noted with contract requirements. | |
| D — Will be returned by separate correspondence. | G — Other (Specify). | |
10. Approval of items does not relieve the Contractor from complying with all the requirements of the contract plans and specifications.



Geosynthetic Panel Placement and Seam Log

Project Number: _____
Project Name: _____

Site CQA Specialist: Matthew C. Curtis
Date: _____

Geomembrane Panel Placement					Geotextile Seaming Log				
Panel Number	Length (ft)	Width (ft)	Roll Number	Time	Seam Number	Machine Number	Length (feet)	Time Start	Sheet Temp.

Sketch - label panel number, give approximate dimensions and show repair and destructive test locations



Destructive Sample Form - Field Testing

Project Number: _____

Tested By: Matt Curtis

Project Name: Remedial Action for Site 2 & 17 Landfills

Reviewed By: L. Yamamoto

Project Location: Site 2 Magazine Landfill

Date: _____

Sample No: _____

Pass/Fail _____

Fusion/Extrusion

Date Welded _____

Date Tested _____

Seam No. _____

Test Location _____

Seam Location _____

Tester ID _____

Machine No. _____

Welder ID _____

Ambient Temp. _____

Sheet Thickness Top _____

Sheet Thickness Bottom _____

PEEL

SHEAR

COUPON NO.	INSIDE TRACK		OUTSIDE TRACK		COUPON NO.	LOAD (ppi)	FAILURE MODE*
	LOAD (ppi)	FAILURE MODE	LOAD (ppi)	FAILURE MODE			
1					1		
2					2		
3					3		
4					4		
5					5		
6					6		
7					7		
8					8		
9					9		
10					10		

COMMENTS: _____

CONTRACTOR QUALITY CONTROL REPORT

Contract No. N62711-01-D6016

Date:

#0

PHASE	Y = YES, N = NO (SEE REMARKS) BLANK = NOT APPLICABLE	IDENTIFY DEFINABLE FEATURE OF WORK LOCATION AND LIST PERSONNEL PRESENT
PREPARATION	The Plans and Specs Have Been Reviewed	
	The Submittals Have Been Approved	
	Materials Comply With Approved Submittals	
	Materials Are Stored Properly	
	Preliminary Work Was Done Correctly	
	Work Method and Schedule Discussed	
	Testing Plan Has Been Reviewed	
	INITIAL	Preliminary Work Was Done Correctly
Sample Has Been Prepared (Approved)		
Workmanship is Satisfactory		
Test Results are Acceptable		
Work is in Compliance With the Contract		
FOLLOW-UP	Work Complies With Contracts As Approved In Initial Phase	
Rework Items Identified Today (Not Corrected by Close of Business)		Rework Items Corrected Today (From Rework Items List)

Remarks:

On behalf of the Contractor, I certify that this report is complete and correct, and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

Authorized QC Manager At Site

Date

GOVERNMENT QUALITY ASSURANCE REPORT

Quality Assurance Representative's Remarks and/or Exception to the Report

Government Quality Assurance Representative

Date

Acceptance of Foundation Subgrade for Areas A & B

CQC Inspector _____

Address: _____

Contract Number: N68711-01-D-6016

Task Order 0004-0007

Project Name: Former MCAS El Toro

Operable Unit-2B, Site 2

Owner: US Navy SWDIV

Authorized Representative: /s/ [Signature]

I the undersigned, duly authorized representative of Engineering/ Remedial Resources Group, Inc., do hereby agree that the **Foundation Subsurface** is suitable for placement of the evapotranspirational cap and shall be responsible for maintaining the subsurface in accordance with provisions of the Earthwork Specification from this date to completion of the cap installation.

Foundation Subsurface was cleared and grubbed per design Specifications Section 02231, scarified, moisture conditioned and recompacted to 90% of the maximum dry density of the existing soil cover , gravels greater than 3" and all waste has been removed per Section 02315 Parts 2 & 3. The **Foundation Subsurface** was compaction tested to a depth of 2 feet per Note 10 on the Final Grading Plans Sheet C-2.

I understand that any rework of the **Foundation Subsurface** shall be completed in accordance with the Earthwork Specifications and the Construction Quality Control Plan, Section 5.2.1.

ERRG CQC Engineer

Printed Name _____

Date _____

Submitted to:

Owner's Representative Signature

Title

Printed Name _____

Date _____



Sand Cone Moisture Density Test Log

Project Number: _____
 Project Name: **Remedial Action for Site 2 & 17 Landfills**
 Project Location: **Site 2 Magazine Landfill**

Tested By: **Matt Curtis**
 Reviewed By: **L. Yamamoto**
 Date: _____

Laboratory Soil Data					Sand Cone Data	
Y Z	Comp. Curve Number				Cone No.	18
	ASTM Number				Plate No.	18
	Max. Dry Density (pcf)				(L) Cone + Plate Vol.	0.0395
	Opt. Moist. Cont. (%)				(J) Sand Density	88.33

Nuclear Gauge Moisture and Density Test Data (ASTM D3017 & D2922)

Test Number						
Northing/ Station						
Easting/Offset						
Elevation/Lift						
Probe Depth						
Compaction Curve Number						
a	Wet Density (pcf)					
b	Weight of Water (pcf)					
w	Moisture Content					
d=a/(1+(w/100))	Dry Density (pcf)					
r=(d/Y)*100	Relative Compaction	See Below				

Laboratory Moisture Test Data (ASTM D2216 & 4643)

Test Method		Mic.	Oven	Mic.	Oven	Mic.	Oven	Mic.	Oven	Mic.	Oven
Tare Number											
A	Wet soil + Tare (gr.)										
B	Dry Soil + Tare (gr.)										
C=A-B	Water (gr.)										
D	Tare (gr.)										
E=B-D	Dry Soil										
W=C/E)*100	Moisture Content (%)										

Test Hole Volume and Soil Density

G	Initial Sand and Jar (lb)					
H	Final Sand and Jar (lb)					
I=G-H	Sand In Hole (lb)					
J	Sand Unit Weight					
K=I/J	Total Sand Volume					
L	Cone Volume					
M=K-L	Soil Hole Volume					
N	Wet + Soil and Tare (lb)					
O	Tare Weight					
P	Wet Soil Weight (lb)					
Q=P/M	Wet Soil Density (pcf)					
S=Q/(1+(F/100))	Dry Soil Density (pcf)					
R=(S/Y)*100	Rel. Compaction					

Note: All primary test locations are plotted on Plates X and Y.



Sand Cone Density Calibration Form

Project Number: _____
Project Name: Remedial Action for Site 2 & 17 Landfills
Project Location Site 2 Magazine Landfill

Tested By: Matt Curtis
Reviewed By: _____
Date: 10/21/2005

		Trial 1	Trial 2	Trial 3	Trial 4
A	Sand and Mold	_____	_____	_____	_____
B	Mold Tare	_____	_____	_____	_____
C=A-B	Final Sand	_____	_____	_____	_____
D	Mold Volume	<u>0.033</u>	<u>0.033</u>	<u>0.033</u>	<u>0.033</u>
E=C/D	Total Sand Volume	_____	_____	_____	_____
F=Average E	Average Density	_____			

SCALER SETUP SHEET

Project Number: _____
 Project Name: _____
 Project Location: _____
 Instrument #: _____
 Probe Type #: _____
 Technician: _____

Date/Time: _____
 Date Calibrated: _____
 Source Activity: _____ dpm
 Source Type: _____
 HV Check/Setting: _____

1. Total Background Counts observed: record counts in 1 - 10

Count Time _____ minutes

1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
9	_____	_____	_____
10	_____	_____	_____

Average Counts = _____ counts

Average count rate = _____ cpm

Standard Deviation Bkg = _____ counts

Sum of Squares = _____

2. Total Source Counts observed: record in 1 - 10

1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____
7	_____	_____	_____
8	_____	_____	_____
9	_____	_____	_____
10	_____	_____	_____

Average source count = _____ counts

Avg Source Ct Rate = _____ cpm

Std Dev Source cts = _____ counts

Sum of Squares = _____

Net source cts = _____ counts

Efficiency = _____ cpm/dpm

Std. Dev. Net = _____ counts

Corr. Factor = _____ dpm/cpm

Net Ct. Rate = _____ cpm

LLD = _____ counts

MDA = _____ dpm/100 cm²

RCS Reviewed By: _____

Date: _____



Nuclear Gauge Moisture Density Test Log

Project Number: _____ Test By: **Matt Curtis**
 Project Name: **Remedial Action for Site 2 & 17 Landfills** Reviewed By: **L. Yamamoto**
 Project Location: **Site 2 Magazine Landfill** Date: _____

Soil Characterization Engineering Material Properties

Compaction Curve No.	Compaction			Simplified Location Map
	Soil Description	Max. Dry Density (pcf) Y	Opt. Moist. Content (%) w	

Nuclear Gauge Moisture and Density Test Data (ASTM D3017 & D2922)

Test Number					
Northing/ Station					
Easting/ Offset					
Elevation/ Lift (ft.)					
Probe Depth (in.)					
Compaction Curve Number					
a	Wet Density (pcf)				
b	Weight of Water (pcf)				
w	Moisture Content				
$d = a / (1 + (w/100))$	Dry Density				
$r = (d/Y) * 100$	Relative Compaction				
Pass/Fail					

Laboratory Moisture Test Data (ASTM D2216 & D4643)

Test Method	Micro.	Oven	Micro.	Oven	Micro.	Oven	Micro.	Oven	Micro.	Oven
Tare Number										
A	Wet soil + tare (grams)									
B	Dry Soil = tare (grams)									
C=A-B	Water (grams)									
D	Tare (grams)									
E=B-D	Dry Soil (grams)									
$W = (C/E) * 100$	Moisture Content (%)									

Combined Nuclear and Laboratory Test Data

$F = a / (1 + (W/100))$										
$R = (F/Y) * 100$										
Required Relative Compaction (%)	90									
Required Moisture Range (%)	± 2% of Optimum Moisture Content									

Note: All primary test locations are plotted on Plates X & Y



GeoTextile

Geomembrane

☐ Erosion Control Matting

Project Number:

Project Location:

Site 2

Project Name: Remedial Action for Site 2 & 17 Landfills

Site CQA Specialist: Matthew C. Curtis

[illegible]

Remarks might include "QC sample taken", "damaged roll", "missing QC documentation", etc.



Site 2

Site CQA Specialist: Matthew C. Curtis

[illegible]



Project Number:

Project Name: Remedial Action for Site 2 & 17 Landfills

Project Location: Site 2

Site CQA Specialist: Matthew C. Curtis

[illegible]

CQC Inspection Checklist and Log

Testing Plan and Log Continued

Contract: N68711-01-D-6016

D.O. No. 0004 through 0007

**Job Name & Location: Operable Unit-2B, Site 2 and 17
Former MCAS El Toro**

Specification Section and Paragraph No.	Item of Work	Testing Required	Accredited/ Approved Lab		Sampled By	Tested By	Location of Test		Frequency	Date Complete	Date Forwarded to Customer	Remarks
			Yes	No			On Site	Off Site				
02371	Wire Mesh Gabions	ASTM C88						X	One per source of stone			
02372	Geomembrane	None										
02373	Geotextile	None										
02380	Stone for Rip- rap revetment	ASTM C127 Calif 229 Calif 211						X	One per off-site source			
		ASTM 5519					X		Two on each source of rip-rap			
02525	Monitoring Wells	None										
02721	Aggregate Base Course	ASTM D1556					X		One per 500 yd ³			
		ASTM D1557						X	One sample and test per material type or change in source			

Construction Quality Control Site Inspection and Checklist Log

GENERAL INFORMATION	
Project Name:	Former MCAS El Toro, Site 2 - Magazine Landfill
Contract Number:	N68711-01-D-6016
Contractor:	ERRG/ (Subcontractor) Shaw Environmental, Inc.
Inspector's Name:	Tom Davis/ Matthew C. Curtis
Inspector's Title:	CQC Manager/ Site CQC Specialist
Signature:	
Inspection of Definable Features of Work (Check Upon Completion and Date)	
<input type="checkbox"/> Mobilize/Utilities _____ <input type="checkbox"/> Clear & Grub _____ <input type="checkbox"/> Temp Drainage/Erosion Control _____ <input type="checkbox"/> Fugitive Dust Emission Control _____ <input type="checkbox"/> Landfill Subgrade Preparation _____ <input type="checkbox"/> Mine and Stockpile Riprap _____ <input type="checkbox"/> C1/C2 Excavation/Waste Consolidation _____ <input type="checkbox"/> C1/C2 Subgrade Preparation _____ <input type="checkbox"/> C1/C2 Fill _____ <input type="checkbox"/> Marsten Matting Removal _____ <input type="checkbox"/> Slope Fill Thickness _____ <input type="checkbox"/> Borrow Site Soil Confirmation _____ <input type="checkbox"/> ET Cap Fill _____ <input type="checkbox"/> Geomembrane Installation _____ <input type="checkbox"/> Geotextile Installation _____ <input type="checkbox"/> Gabion Mats & Boxes _____	<input type="checkbox"/> Erosion Control Blanket _____ <input type="checkbox"/> Riprap Revetments _____ <input type="checkbox"/> Chain Link Fences _____ <input type="checkbox"/> Revegetation: Seeding and Plants _____ <input type="checkbox"/> Abandon Monitoring Wells _____ <input type="checkbox"/> Install Lysimeter Wells _____ <input type="checkbox"/> Install Gas Monitoring Wells _____ <input type="checkbox"/> Install Groundwater Wells _____ <input type="checkbox"/> Utility Abandonment _____ <input type="checkbox"/> Concrete / Shotcrete _____ <input type="checkbox"/> Irrigation System _____ <input type="checkbox"/> Aerial/Land Surveying _____ <input type="checkbox"/> Demobe _____ _____ _____ _____

Preparatory Phase/Meeting Log

[illegible]

PREPARATORY INSPECTION CHECKLIST

Date: _____ Government Notified? Yes _____ (Date/Time _____) How Notified _____ No _____

Location: _____ Time: _____

Definable Feature: _____ Specification: _____

Subcontractor _____ Phone No. _____ Fax: _____

Mailing Address _____

Anticipated Date for Start of Work _____ Scheduled Duration of Work _____

Personnel Present:

Position:

Company:

Phone:

1. _____
2. _____
3. _____
4. _____
5. _____

(List additional personnel on reverse side)

Submittals

1. Review submittals and/or submittal log. Have all submittals been approved? Yes _____ No _____
2. If not, what items have not been submitted? _____

Materials

1. When are materials anticipated to be delivered to the site? _____
2. Review material delivery, check in, storage and delivery ticket procedures.

Testing and Inspection

1. Review Quality Control function and procedures (See Attached Checklist).
2. Identify tests to be performed (See Attached Checklist).
3. Review procedures for scheduling inspections by the Government (if required).

Specification and Construction Drawings

1. Review each paragraph of the specifications and each page of the drawings.
2. Discuss procedures for accomplishing the work.
3. Discuss the impact of this work on other trades and their impact on this work.
4. Clarify any work not in this scope of work as understood by the trade.
5. Clarify any open issues which will require resolution for this work to be complete.

Preliminary Work and Permits

1. Clarify access to the site and work areas.
2. Ensure permits and passes are on file.
3. Review other work which must precede the installation of this work.
4. Review sample panels or mock-ups required prior to start of work.

Safety

1. Review applicable portions of the Site Health and Safety Plan.

Document Navy or MC; Comments

PreparatoryInspectionAgenda.doc

INITIAL INSPECTION CHECKLIST

Date: _____ Government Notified? Yes _____ (Date/Time _____) How Notified _____ No _____

Location: _____ Time: _____

Definable Feature: _____ Specification: _____

Subcontractor _____ Phone No. _____ Fax: _____

Mailing Address _____

Anticipated Date for Start of Work _____ Scheduled Duration of Work _____

Personnel Present:

Position:

Company:

Phone:

6. _____

7. _____

8. _____

9. _____

10. _____

(List additional personnel on reverse side)

- I. Identify full compliance with procedures identified at preparatory meeting. Confirm understanding of plans, specifications and submittals.

Comments:

- II. Preliminary Work. Ensure preliminary work is complete and correct. If not, what action is being taken to correct the situation?

Comments:

- III. Establish Level of Workmanship.

1. ☐ Where is work located? _____
2. ☐ Is a sample panel or mock-up required? If so, coordinate location and approval process.
3. ☐ Establish standards for material storage, quality of work and clean up.
4. ☐ Review tests and inspection milestones required for approval of this work.

- IV. Safety

1. ☐ Review applicable portions of the Corps of Engineers Safety and Health Requirements Manual.
2. ☐ Review the Contractors safety standards and tool box meeting requirements.
3. ☐ Confirm that the required Activity Hazard Analysis is being followed.

- V. Resolve any differences.

Comments:

Initial Phase Meeting Form

FOLLOW-UP INSPECTION CHECKLIST

Date: _____ Government Notified? Yes _____ (Date/Time _____) How Notified _____ No _____
 Location: _____ Time: _____
 Definable Feature: _____ Specification: _____
 Subcontractor _____ Phone No. _____ Fax: _____
 Mailing Address _____
 Date for Start of Work _____ Duration of Work _____

	Personnel Present:	Position:	Company:	Phone:
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
13.	_____	_____	_____	_____
14.	_____	_____	_____	_____
15.	_____	_____	_____	_____

(List additional personnel on reverse side)

I. Identify full compliance with procedures identified at preparatory and initial meeting.
 Comments: _____

II. Corrective Action. What corrective actions were undertaken to correct any known situation?
 Comments: _____

III. Establish Level of Workmanship.

1. ☒ Where was the work located? Area A, B and C1 (Tops)
2. ☒ All tasks were completed and the site was cleaned up for the next task.
3. ☐ Review of all tests and inspection milestones required for approval of this work.

IV. Safety

1. ☒ Review applicable portions of the Corps of Engineers Safety and Health Requirements Manual.
2. ☒ Review the Contractors safety standards and tool box meeting requirements.
3. ☒ Confirm that the required Activity Hazard Analysis was being followed.

V. Resolve any differences.
 Comments: _____

Follow up-Construction Phase Meeting Form

Checklist Form

Mobilization of Equipment, Trailers, Utilities and Team Members

Date: _____
 Inspector: _____
 Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the Site Safety plan been signed prior to all field work? (SSP 2.5)	Prep				
Has the site been surveyed for Biological Concerns? (RAWP 4.1 & 5.1)	Prep				
Have Archaeological Concerns been surveyed? (01010-3.2.4)	Prep				
Have permits been issued? (Spec's 01010-3.3.2)	Prep				
Have Dig-Alerts been issued? (CA Code 4216-4216.9)	Prep				
Are the Emergency Contact List and Evacuation route Follow uped?	Prep				
Are OSHA Signs Follow uped	Prep				
Have all appropriate field equipment been ordered?	Prep				
Have all office supplies been ordered?	Prep				
Are temporary fencing and gates installed? (Spec's 01010-3.2.2)	Initial				
Are temporary rest rooms provided? (01010-3.1.1.a)	Initial				
Is there site security provided? (Spec's 01010-3.1.2)	Initial				
Are utility Services established and metered? (Spec's 01010-3.1.1)	Initial				
Have trailer locations, storage bins and lay down areas been graded flat?	Follow up				
Have appropriate initial fence signs been installed? (Spec's 10400)	Follow up				
Have lined containment berms created for fuel, oil, and hazardous waste storage?	Follow up				
Field Testing				X	
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Clearing & Grubbing

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Are all roads and walkways free of dirt and debris? (Spec's 2231-3.1.1)	Prep				
Are all subsurface utilities delineated and protected? (Spec's 2231-3.1.3)	Prep				
Has the site been surveyed for Biological Concerns? (RAWP 4.1 & 5.1)	Prep				
Have protected plants and trees been identified and cordoned off? (Spec's 2231-3.1.2 & RAWP 5.1)	Initial				
Are fences provided around all infrastructural monitoring points?	Initial				
Have any trees been identified that require special removals? (Spec's 2231-3.3)	Initial				
Have all areas with poisonous plants been identified and have employees been told to take appropriate precautions? (SSP 3.3.2)	Initial				
Have cleared trees and brush been cut off to the original surface in active works areas including lay down yards? (Spec's 2231-3.1.2)	Follow up				
Have trees, stumps, and roots been removed to a depth of 6-inches?	Follow up				
Have limbs, stumps, matted roots greater than 3" been grubbed and either mulched, or disposed off-site? (Spec's 2231-3.4.a)	Follow up				
Have approved grubbed materials and miscellaneous top soils been disposed of within the central ravine prior to C1/C2 soil disposal?	Follow up				
Have grubbed tree stumps and roots area depressions been replaced with approved foundation material? (Spec's 2231-3.4.b)	Follow up				
Field Testing				X	
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Temporary Drainage Erosion Control

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Are all materials stored in designated areas and protected from the elements? (Spec's 2370-1.4)	Initial				
Are pre-existing waterways and drainages being protected? (Spec's 02315-3.2.1.1)	Initial				
Have erosion control measures been established? (Spec's 01010-1.3.e)	Prep				
Are all roads and walkways free of dirt and debris? (Spec's 2231-3.1.1)	Prep				
Do all grades surfaces have positive runoff away from construction activities? (Spec's 02315-3.2.1.1)	Follow up				
Are BMPs being utilized? (SWPPP 2.1 & 4.1)	Follow up				
Is El Toro Materials, soils subcontractor, providing temporary erosion control measures at their off-site location? (Spec's 02315-3.2.1.1)				X	
Field Testing: Are wind speed monitors in use?					
Are wind speed monitors in use?					
Lab Testing				X	
Receivables					
BMP's include silt fencing, straw bails, geotextiles, and sand bags					
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan; SWPPP refers to Stormwater Pollution Prevention Program

Checklist Form Fugitive Dust Emission Control

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Are water trucks in working order?	Prep				
Have all transport vehicles cross pads of washed gravel (or equivalent) to ensure no tracked soil is brought to public streets? (AQMD Rule 403)	Prep				
Is non-potable water being utilized?	Initial				
Is fugitive dust exiting the property?	Initial				
Is dust visible by the public? (AQMD Rule 3, Section 417101)	Initial				
Are imported soil transport vehicles covered while on public streets? (CA Vehicle code 23114)	Initial				
Have all grading operations been suspended when winds exceeded 25 miles per hour? (AQMD Rule 403)	Initial				
Have all transport vehicles cross pads of washed gravel (or equivalent) to ensure no tracked soil is brought to public streets? (AQMD Rule 403)	Initial				
Do all vehicles traveling at speeds at or below 15 mph? (AQMD Rule 403)	Initial				
Have all grading operations been suspended when winds exceeded 25 miles per hour? (AQMD Rule 403)	Follow up				
Field Testing					
Are wind speed monitors in use?					
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Landfill Subgrade Preparation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the foundation layer been constructed to the elevations shown on the final construction drawings? (Spec's 02315-3.11.1)	Initial				
Does the foundation layer contain any consolidated waste or gravel greater than 3-inches in maximum dimensions? (Spec's 02315-2.2.3)	Initial				
If hard material or rocks are encountered during excavation to Subgrade, are materials removed in a manner that leaves the remaining hard material and rock in an unshattered condition? (Spec's 02315-3.5.2)	Initial				
Are foundation soils placed in a maximum of 8-inch loose lifts? (Spec's 02315-3.7.3)	Follow up				
Has soil been compacted to a minimum of 90% of ASTM D1557, maximum dry density, with a moisture within 2% of optimum moisture content? (Spec's 02315-3.7.3)	Follow up				
Field Testing					
Nuclear Density Tests					
Nuclear Density Tests of import (4 per 1,000 yards)					
Sand Cone Density Tests					
Sand Cone Density Tests of import (1 per 5,000 yards)					
Lab Testing					
Atterberg Limits (if imported soils 1 per 5,000 yards ³)					
Grain size analysis (if imported soils 1 per 5,000 yards ³)					
Proctor Curve (if imported soils 1 per 5,000 yards ³)					
Receivables					
Imported soil tickets					
Calibration					
Has the nuclear gauge been calibrated and logged daily?					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Mine and Stockpile Riprap

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Are areas with riprap defined on the design drawings?	Prep				
Identify lay down areas for riprap stock piles and segregation areas for waste and gradational stone sizes?	Prep				
Have quantified estimates of existing riprap been compared to design drawings quantities and if they fall short has imported stone been ordered?	Prep				
Have access roads been established to mine riprap?	Initial				
Are erosion control measures been utilized for both the excavation area and the stockpiles? (Spec's 01010-1.3.e)	Initial				
Are riprap, bedding material, geomembrane and commingled soil with bedding materials being separated? (02315-3.4)	Follow up				
Have old geomembrane scraps been disposed of off-site? (Design Drawing C-3, Note 12)	Follow up				
Field Testing				X	
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan, SAP refers to Sampling and Analysis Plan.

Checklist Form

C1/C2 Excavation and Waste Consolidation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Are the excavation and waste consolidation areas free of water? (Spec's 02315-3.2.1.1)	Prep				
Are temporary drainage controls in the excavation area and the waste consolidation functioning properly? (Spec's 02315-3.2.1.1)	Prep				
Are plans to monitor for emissions and radiological monitoring activities in place? (Spec's 02315-3.5.1)	Prep				
Are there plans to deal with unacceptable waste such as liquid waste, batteries, or radium dials? (Spec's 02315-3.5.1)	Prep				
Are temporary drainage controls in the excavation area and the waste consolidation functioning properly? (Spec's 02315-3.2.1.1)	Initial				
Are emissions and radiological monitoring activities being performed? (Spec's 02315-3.5.1)	Initial				
Has unacceptable waste been detected? (Spec's 02315-3.5.1)	Follow up				
Was air quality monitoring conducted during waste excavation? (Spec's 02315-3.5.1.1)	Follow up				
Is depth of excavation 0.5 feet below the surrounding grade? (Spec's 02315-3.5.1.1 & SAP 2.7))	Follow up				
If waste was observed at depths 0.5 feet below the surrounding grades, was the excavation extended to 3-feet below the surrounding grade? (Spec's 02315-3.5.12)	Follow up				
Has waste been screened for radiation with a sodium iodide detector to verify that readings are equal to background or are below 17,500 cpm? (SAP 3.1 & 3.3)	Follow up				
Has relocated waste been commingled with soil to minimize voids prior to compaction? (Spec's 02315-3.7.1)	Follow up				
Are soils, commingled with waste, placed in a maximum of 2-foot loose lifts and compacted by a minimum of 4 passes with a compactor weighing greater than 31,000 pounds? (Spec's 02315-3.7.1)	Follow up				
Has solid waste greater than 1-foot been placed within 3 feet of the top of the consolidated waste? (Spec's 02315-3.7.1)	Follow up				
Has a minimum of 1-foot of clean foundation soil been placed over the commingled soil in loose lifts no greater than 8 inches, and compacted to minimum of 90% of ASTM D1557 (Spec 02315-1.4c)	Follow up				
Field Testing					
Radiation Detectors					
Nuclear Density Tests					
Lab Testing				X	
Receivables				X	
Calibration					
Have radiation detectors been calibrated and logs retained?					
Has the nuclear gauge been calibrated and logged daily?					

Checklist Form C1/C2 Subgrade Preparation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Have a minimum of 5 random soil samples been characterized for metals? (SAP 3.1)	Prep				
All roots have been removed from excavation area? (Spec's 2315-3.4a)	Initial				
Were Waste Materials left in place at depths greater than 3 feet? (SAP 1.1)	Initial				
Confirmation sampling has been completed and approved. (Spec's 2315-3.5.1.2)	Initial				
The excavation area has well established drainage controls preventing water entering the excavation. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Does the subgrade contain any gravel greater than 3-inches in maximum dimensions? (Spec's 02315-2.2.3)	Follow up				
Has the subgrade been properly moisture conditioned? (CQC Plan 5.2.1)	Follow up				
Has subgrade been approved by a registered professional engineer or registered professional geologist? (CQC Plan 5.2.1)	Follow up				
Field Testing				X	
Lab Testing					
Metals by EPA Method 6010B/7000A Series 7471/7472					
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form C1/C2 Fill

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the subgrade been accepted by a professional engineer and the acceptance letter received by the ROICC?	Prep				
Was the common fill stockpile cleared and grubbed of loose vegetation, Marsten matting and residual oxidized materials?	Initial				
Verify that areas have well established drainage controls preventing water entering the fill areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Verify that areas have well established drainage controls preventing water entering the fill areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Follow up				
Has Common Fill been placed in maximum 8-inch loose lifts? (Spec's 02315-3.7.2)	Follow up				
Was Common Fill compacted to 90% of ASTM D1557 maximum dry density and a moisture content within 2% of optimum? (Spec's 02315-3.10.1)	Follow up				
Has the fill been placed to the design grade specifications? Design Drawings Sheets C-6 and C-7)	Follow up				
Field Testing					
Nuclear Density Tests of import (4 per 1,000 yards ³)					
Sand Cone Density Tests of import (1 per 5,000 yard ³)					
Lab Testing					
Proctor Curve (1 per 5,000 yards ³)					
Receivables					
Imported soil tickets (if imported soil was used)					
Calibration					
Has the nuclear gauge been calibrated and logged daily?					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form **Marsten Matting Removal**

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has a Marsten Matting recycler been located?	Prep				
Is there any debris located with the Marsten Matting stockpile?	Prep				
Is there appropriate equipment on site to facilitate the removal of the Matting?	Prep				
Is the Site Health and Safety Plan being used to help engineer the removal of the matting?	Initial				
Does the recycler have 40-hr OSHA training?	Initial				
Are the trucks weighed prior to and after matting removal?	Follow up				
Field Testing					
Lab Testing					
Receivables					
Non-hazardous waste manifest					
Calibration					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Slope Fill Thickness Verification

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
The locations of potholes for ET cover verification have been identified and do not impact gas/groundwater/Lysimeter wells, or other infrastructure features.	Prep				
Verify that areas have well established drainage controls preventing water entering the excavation areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Potholes have been excavated at the toe of the slopes, at 50' on centers to determine that no waste occurs within 4 feet horizontal to the surface. (Design Drawings Sheet C-10, Section N-N', Detail 8)	Follow up				
Potholes have been recompact with Evapotranspirational cover material to 90% of ASTM D1557 maximum dry density and a moisture content within 2% of optimum? (Spec's 02315-3.12.2.3)	Follow up				
Field Testing					
Nuclear Density Tests of import (4 per 1,000 yards ³)					
Lab Testing					
Proctor Curve (1 per 5,000 yards ³)					
Receivables					
Calibration					
Has the nuclear gauge been calibrated and logged daily?					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Borrow Site Soil Confirmation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the mixing method been approved by the supplier and ERRG?	Prep				
Can the soil mixing rate/method be adjusted for differing combination percentages?	Prep				
Field Testing				X	
Lab Testing					
Proctor Curve					
Hydraulic Conductivity					
Grain/Particle Size					
Atterberg limits					
Receivables				X	
Calibration					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Evapotranspirational Cap Fill

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the Foundation surface been accepted by the QC engineer? (CQC 5.2.1)	Prep				
Have the Imported soils been confirmed to meet project specifications? (Spec's 02315-2.2.4)	Prep				
An approved haul route from the import source, including access and egress to the fill area, has been chosen?	Prep				
Imported soils have been inspected to ensure that there are no clumps greater than ¾" (Spec's 02315-3.6)	Initial				
Verify that areas have well established drainage controls preventing water entering the fill areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Hydraulic conductivity testing per ASTM Methods 5084, 422, & 4318 have been conducted at a frequency of 1 per 5,000 during import soil processing? (Spec's 02315-3.12.2.5)	Initial				
Verify that areas have well established drainage controls preventing water entering the fill areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Follow up				
Hydraulic conductivity testing per ASTM Methods 5084, 422, & 4318 have been conducted at a frequency of 1 per 5,000 during import soil processing? (Spec's 02315-3.12.2.5)	Follow up				
Soil has been placed in loose lifts not exceeding 8" (Spec's 02315-3.7.4)	Follow up				
Fill has been compacted to 90% of ASTM D1557, maximum dry density, with a moisture within 2% of optimum moisture content? (Spec's 02315-3.7.4)	Follow up				
Total fill thickness of the ET cover is a minimum of 4-feet over the foundation layer? (Spec's 02315-3.10.3)	Follow up				
Final surface of compacted fill was built to meet the design grade design per the construction documents? (Spec's 02315-3.11.1)	Follow up				
BAT testing has been performed at a frequency of 1 per 5,000 cubic yards (Spec's 02315-3.12.2.5)	Follow up				
Field Testing					
Nuclear Density Tests of import (4 per 1,000 yards)					
Sand Cone Density Tests of import (1 per 5,000 yards)					
Field Moisture Tests (4 per 1,000 yards)					
BAT Testing on compacted fill(1 per 5,000 yards)					
Lab Testing				X	
Proctor Curve (if imported soils 1 per 5,000 yards ³)					
Hydraulic Conductivity Testing on Imported soil (1 per 5,000 yards)					
Atterberg Limits (if imported soils 1 per 5,000 yards ³)					
Grain size analysis (if imported soils 1 per 5,000 yards ³)					
Receivables					
Imported soil tickets				X	
Calibration					

Requirement	Phase	Yes	No	N/A	Corrective Action
Has the nuclear gauge been calibrated and logged daily?					

Checklist Form Geomembrane Installation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the subgrade been compacted to 90% of the ASTM D1557 maximum dry density prior to geomembrane placement? (Spec's 02315- 3.10.4)	Prep				
An approved Geomembrane installer has been selected? (Spec's 02373-1.3.2)	Prep				
Have geomembrane specifications conformed to the physical properties requirement prior to delivery? (Spec's 02372-2.1.3)	Prep				
Are winds below 15 mph during installation? (Spec's 02372-1.6)	Initial				
Has the equipment used by the subcontracted installer been performance checked? (Spec's 02372-1.7)	Initial				
Has the delivery, storage and handling of the materials been observed and protected from puncture, abrasion, excessive heat or cold, material degradation, adhesion of individual layers or other damaging circumstances? (Spec's 02372-1.5)	Initial				
Verify that areas have well established drainage controls preventing water entering the excavation areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Field Testing				X	
Lab Testing				X	
Receivables					
Material properties sheet					
Manufacturers QC Manual					
QC Certification					
QC Test report					
Verification of Manifest (lot #, roll #, roll dimension, Product ID, date manufactured)					
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Geotextile Installation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
An approved Geotextile installer has been selected (Spec's 02373-1.3.2)	Prep				
Have Geotextile certs and quals have been approved prior to shipment? (Spec's 02373-1.3.2)	Prep				
Geotextiles are packaged in opaque, waterproof, protective plastic wrapping and stored in covered work area (Spec's 02373-1.3.5)	Initial				
Verification that the manufacturer QC testing of the Geotextiles meet the physical property requirements (Spec's 02373-2.1.1)	Initial				
Inspect the surface to receive the material to ensure that it is free of obstructions, depressions and soft pockets (Spec's 02373-3.1)	Initial				
Verify that all Geotextile is sewn using the shingle method using contrasting colored polymeric thread (Spec's 02373-3.3)	Initial				
Verify that areas have well established drainage controls preventing water entering the excavation areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Verify that anchor trenches are 18"x18" and soil backfill is compacted to 90% per ET cover requirements (02315-3.10.3)	Follow up				
Verify that Geotextile material will be covered with bedding material within 14 days of installation. (Spec's 02373-3.4)	Follow up				
Verify that no vehicles are allowed to drive or operate directly on Geotextile (02373-3.5)	Follow up				
Field Testing					
Nuclear Density Tests					
Sand Cone Density Tests of import (1 per 5,000 yards)					
Lab Testing					
Proctor Curve (if imported soils 1 per 5,000 yards ³)					
Receivables					
Material properties sheet					
Manufacturers QC Manual					
QC Certification					
QC Test report					
Verification of Manifest (lot #, roll #, roll dimension, Product ID, date manufactured)					
Calibration					
Has the nuclear gauge been calibrated and logged daily?					

Checklist Form

Gabion Mats and Boxes: Assembly and Installation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Verify that the manufacturer's physical properties of the wire, wire coating, and aging tests meet project specs. (Spec's 02371-2.1.1)	Prep				
Provide methodology for fastening mats and baskets to ROICC including type of fasteners uses if they are not stainless steel lacing wire. (Spec's 02371-2.1.2.1)	Prep				
Verify that gabions are composed of galvanized coated steel formed into double twisted, hexagonal wire mesh wrapped around selvage wire. (Spec's 02371-2.1.1.1)	Prep				
Verify that the wire mesh openings are no larger than 3-1/4 by 4-1/2" (Spec's 02371-2.1.1.1)	Prep				
Verify the quality and soundness of stones to be used within the gabions and that they are free of dirt, sand and clay. (Spec's 02371-2.1.3.1)	Initial				
Verify stones are well graded from 4-8" in size. (Spec's 02371-2.1.3.2)	Initial				
Verify that Gabion mats have no stones larger than 8" in any one dimension. (Spec's 02371-2.1.3.2)	Initial				
Verify that the foundation Subgrade conforms to grades from the design drawings. (Spec's 02371-3.1)	Initial				
Verify that riprap excavation areas have well established drainage controls preventing water entering the excavation areas prior to gabion installations. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Verify that the graded bedding material meets the physical properties requirements and is placed in the variable thicknesses as defined on the design drawings (Spec's 02380-3.3.1)	Follow up				
Verify that all gabions are wired together at a minimum of 6-inch spacing. (Spec's 02371-3.4)	Follow up				
Field Testing				X	
Lab Testing				X	
Receivables					
Gabion Manufacturers catalog					
Off-site stone quality test report					
Certificates for gabion mats and wire fasteners					
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Riprap Rivetments

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Verify that all existing riprap, bedding and Geomembrane has been removed, stockpiled, sorted by stone gradation (Spec's 02315-3.4)	Prep				
Are quantities of existing riprap materials removed sufficient for gabions and riprap for riverbeds and slopes per design drawings? (Spec's 02380-1.3)	Prep				
If stone is to be imported, has the source provided submittals verifying bedding and stone physical properties (Spec's 02380-2.1.2 & 2.2.2)	Prep				
Verify that geosynthetics are spread smoothly and anchored with trenches? (02380-3.3.1)	Initial				
Verify that riprap excavation areas have well established drainage controls preventing water entering the excavation areas. (Spec's 2315-3.2.1.2 & SWPPP 4.1)	Initial				
Verify that bedding material was placed in 6-inch layers (down drains only) or 12-inch layers as shown on the design drawings? (DD Sheet C-10 L-L' & detail 9)	Follow up				
Verify that stones drop from no more than 3 feet. (Spec's 02380-3.3.2)	Follow up				
Field Testing					
Lab Testing					
Receivables				X	
Material properties Sheet					
Gradation Test Report					
Bedding and Stone Certificates					
Imported Bedding and Stone weight tickets (if required)					
Calibration					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Chain-Link Fence Installation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Remove all old fences within the current excavation and fill areas	Prep				
Verify that proposed fencing locations are free of debris, shrubs, and cleared by the Biologist	Prep				
Observe excavation of Follow up settings, concrete footings, installation of Follow ups and verifications that concrete crowns slope away from Follow ups. (Spec's 02821-3.2.1)	Follow up				
Verify that all Follow ups are plumb vertical. (Spec's 02821-3.2.1)	Follow up				
Verify that fencing, braces, tension wires are installed per specifications (Spec's 02821-Part 3)	Follow up				
Verify that all fencing and gates are installed with fabric on the inside of the fencing (Spec's 02821-3.2.4)	Follow up				
Verify that all unused fencing materials were removed. (Spec's 02821-3.2.7)	Follow up				
Field Testing				X	
Lab Testing				X	
Receivables					
Manufacturer's Catalog					
Certificates for fabric, Follow ups, gates, braces, and tension wires					
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Abandonment of Monitoring Wells

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Have permits for well destruction been obtained from the County? (County Ordinance No. 2607)	Prep				
Has Dig Alert been contacted? (CA Code 4216-4216.9)	Prep				
Has the well destruction plan been reviewed as well as the RFI's for abandonment dated 2003? (Spec's 02052-1.1.2)	Prep				
Do the drillers and helpers from the well drilling firm have 40-hr OSHA Hazwopper training cert's?	Prep				
Has a Monitoring Well Abandonment Plan been developed and approved by the RPM/ROICC? (Spec's 02052-Part 3)	Prep				
Have original boring logs been reviewed? (Spec's 02052-3.1)	Prep				
Have the wells been sounded for total depth and depth to groundwater? (Spec's 02052-3.1)	Initial				
Have the wells been dismantled, surface completion removed, down-hole pumps and lines removed? (Spec's 02052-3.1)	Initial				
For single completion wells, have the casings been removed by withdrawal? (Spec's 02052-3.1)	Follow up				
Have the well been overdrilled to total depth or extend practicable? (Spec's 02052-3.1)	Follow up				
Have the wells been slurried to within 9-feet of the surface, 3-6' backfilled with neat cement and 0-3 feet with soil? (Spec's 02052-3.1)	Follow up				
Have well completion logs been completed and approved by a California Professional Geologist or equivalent? (Spec's 02052-3.1)	Follow up				
Field Testing					
Well abandonment Log					
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Installation of Lysimeter Wells

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Have permits for well construction been obtained from the County? (County Ordinance No. 2607)	Prep				
Has Dig Alert been contacted? (CA Code 4216-4216.9)	Prep				
Has a RAWP, Section 5.8 Well Installation section been approved by the RPM/ROICC? (Spec's 02052-Part 3)	Prep				
Have Well Construction Diagrams been prepared by a California Professional Geologist, or equivalent, for each well and reviewed? (Spec's 02525-1.6.1)	Prep				
Has a disposal/treatment facility been identified and acknowledged for acceptance of contaminated materials? (Spec's 02525-1.6.2)	Prep				
Have the drillers submitted Hazwopper certs?	Prep				
Have the well casing, screen type and size, filter sand, bentonite grout and plug, plugs and caps, completion casing, bollards, and locking caps been approved? (Spec's 02525-Part 2)	Prep				
Have all the well and completion materials been delivered and handled in undamaged conditions, then stored in plastic, under cover and out of direct sunlight or adverse weather conditions? (Spec's 02525-1.5)	Initial				
Have borings been drilled, sampled, logged and verified for straightness per the RAWP and Spec's requirements? (Spec's 02525-3.2.1)	Follow up				
Have the soil cuttings been contained within DOT approved 55-gallon drums pending analysis? (Spec's 02525-3.3.1)	Follow up				
Have the wells been installed per each well construction diagram, including surface completion and well identifier? (Spec's 02052-3.4)	Follow up				
Have the wells been developed and development water sampled? (Spec's 02525-3.5 & 3.6)	Follow up				
Have well cuttings been disposed of in a treatment/disposal facility? (Spec's 02525-3.8)	Follow up				
Has all debris and surplus material been removed? (Spec's 02052-3.10)	Follow up				
Have well completion logs been completed and approved by a California Professional Geologist or equivalent? (Spec's 02052-3.1)	Follow up				
Field Testing					
Boring/Well Log					
Well Development logs					
Lab Testing					
Soil and groundwater sample analysis					
Receivables					
Waste shipment manifests					
Treatment Disposal permits and cert's					
Delivery cert's					
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Installation of Gas Monitoring Wells

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Have permits for well construction been obtained from the County? (County Ordinance No. 2607)	Prep				
Has Dig Alert been contacted? (CA Code 4216-4216.9)	Prep				
Has a RAWP, Section 5.8 Well Installation section been approved by the RPM/ROICC? (Spec's 02052-Part 3)	Prep				
Have Well Construction Diagrams been prepared by a California Professional Geologist, or equivalent, for each well and reviewed? (Spec's 02525-1.6.1)	Prep				
Has a disposal/treatment facility been identified and acknowledged for acceptance of contaminated materials? (Spec's 02525-1.6.2)	Prep				
Have the drillers submitted Hazwopper certs?	Prep				
Have the well casing, screen type and size, filter sand, bentonite grout and plug, plugs and caps, completion casing, bollards, and locking caps been approved? (Spec's 02525-Part 2)	Prep				
Have all the well and completion materials been delivered and handled in undamaged conditions, then stored in plastic, under cover and out of direct sunlight or adverse weather conditions? (Spec's 02525-1.5)	Initial				
Have borings been drilled, sampled, logged and verified for straightness per the RAWP and Spec's requirements? (Spec's 02525-3.2.1)	Follow up				
Have the soil cuttings been contained within DOT approved 55-gallon drums pending analysis? (Spec's 02525-3.3.1)	Follow up				
Have the wells been installed per each well construction diagram, including surface completion and well identifier? (Spec's 02052-3.4)	Follow up				
Have well cuttings been disposed of in a treatment/disposal facility? (Spec's 02525-3.8)	Follow up				
Has all debris and surplus material been removed? (Spec's 02052-3.10)	Follow up				
Have well completion logs been completed and approved by a California Professional Geologist or equivalent? (Spec's 02052-3.1)	Follow up				
Field Testing					
Boring/Well Log					
Lab Testing					
Soil sample analysis					
Receivables				X	
Waste shipment manifests					
Treatment Disposal permits and cert's					
Delivery cert's					
Calibration					

Checklist Form Installation of Groundwater Monitoring Wells

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Have permits for well construction been obtained from the County? (County Ordinance No. 2607)	Prep				
Has Dig Alert been contacted? (CA Code 4216-4216.9)	Prep				
Has a RAWP, Section 5.8 Well Installation section been approved by the RPM/ROICC? (Spec's 02052-Part 3)	Prep				
Have Well Construction Diagrams been prepared by a California Professional Geologist, or equivalent, for each well and reviewed? (Spec's 02525-1.6.1)	Prep				
Has a disposal/treatment facility been identified and acknowledged for acceptance of contaminated materials? (Spec's 02525-1.6.2)	Prep				
Have the drillers submitted Hazwopper certs?	Prep				
Have the well casing, screen type and size, filter sand, bentonite grout and plug, plugs and caps, completion casing, bollards, and locking caps been approved? (Spec's 02525-Part 2)	Prep				
Have all the well and completion materials been delivered and handled in undamaged conditions, then stored in plastic, under cover and out of direct sunlight or adverse weather conditions? (Spec's 02525-1.5)	Initial				
Have borings been drilled, sampled, logged and verified for straightness per the RAWP and Spec's requirements? (Spec's 02525-3.2.1)	Follow Up				
Have the soil cuttings been contained within DOT approved 55-gallon drums pending analysis? (Spec's 02525-3.3.1)	Follow Up				
Have the wells been installed per each well construction diagram, including surface completion and well identifier? (Spec's 02052-3.4)	Follow Up				
Have the wells been developed and development water sampled? (Spec's 02525-3.5 & 3.6)	Follow Up				
Have well cuttings been disposed of in a treatment/disposal facility? (Spec's 02525-3.8)	Follow Up				
Has all debris and surplus material been removed? (Spec's 02052-3.10)	Follow Up				
Have well completion logs been completed and approved by a California Professional Geologist or equivalent? (Spec's 02052-3.1)	Follow Up				
Field Testing					
Boring/Well Log					
Well Development logs					
Lab Testing					
Soil and groundwater sample analysis					
Receivables				X	
Waste shipment manifests					
Treatment Disposal permits and cert's					
Delivery cert's					
Calibration					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Utility Abandonment

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the utility line been disconnected and blind flanged?	Prep				
Has the abandonment of utility line been approved by the Utility Co.?	Prep				
Has the ends of the utility lines been identified and surveyed?	Prep				
Has the utility line been investigated for open continuity?	Prep				
Has the grout been pumped from end to end?	Initial				
Is the utility line buried at both ends?	Follow up				
Field Testing				X	
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Concrete/Shotcrete Installation

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the concrete/shotcrete mix and reinforcement bars been approved? (Spec's 0330-2.1 & 2.2)	Prep				
Have cast-in-place forming materials been ordered? (Spec's 0330-2.4)	Prep				
Have forms and reinforcement bars with wire ties and supports been prepared prior to order of concrete/shotcrete? (Spec's 03300-3.2)	Initial				
Was the concrete poured continuously and float finished? (Spec's 03300-3.3 & 3.5.1)	Follow Up				
Was the air temperature monitored such that the surface of the concrete did not exceed 95°F? (Spec's 03300-3.4)	Follow Up				
Were slump tests taken from the first and after every 20 cubic yards of concrete poured? (Spec's 03300-3.7.1.1)	Follow Up				
Were three compressive strength cylinders taken?	Follow Up				
Field Testing					
Slump tests					
Lab Testing					
Compressive strength tests					
Receivables					
Concrete/shotcrete truck delivery tickets					
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Installation of Irrigation System

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Verify installation of above-ground temporary irrigation system have been installed after hydroseeding. (Spec's 02921-3.6)	Initial				
Verify rotary spray sprinklers have large radii of 50 feet minimum. (Spec's 02921-2.5)	Follow up				
Have temporary systems been replaced with permanent systems. (Spec's 02921-3.6)	Follow Up				
Under continued maintenance, are water utilities being monitored for possible leaks? (Spec's 02921-3.7.1)	Follow Up				
After 1 year, has the possible removal of the irrigation system been evaluated and discussed with the RPM/ROICC? (Spec's 02921-3.7.11)	Follow-Up				
Field Testing				X	
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Aggregate Base Course

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has the aggregate base course been approved for R-value, sand equivalence, durability index and gradation? (Spec's 02721-2.1)	Prep				
Verify that the subgrade has been scarified to 12" prior to compaction. (Spec's 02721-3.1)	Initial				
Was the subgrade moisture condition and recompacted surface to 95% of ASTM D1557? (Spec's 02721-3.1)	Initial				
Has geotextile been placed over subgrade prior to laying of aggregate base? (Spec's 02721-3.1)	Initial				
Verify that each layer of base shall be a maximum of 6 inches in compacted thickness. (Spec's 02721-3.2)	Follow Up				
Verify that each compacted layer is compacted to at least 95% of ASTM D1557. (Spec's 02721-3.3)	Follow Up				
Verify that the finish surface is rolled smooth and free of waves and irregularities. (Spec's 02721-3.3)	Follow Up				
Field Testing					
Nuclear density tests (1 per 500 yds ²)					
Sand cone density test (1 per day or 1 per 10 nuke tests)					
Lab Testing					
Proctor compaction curve					
Particle size test (1 per day or 1 per yd ³)					
Sand Equivalent test (1 per day or 1 per yd ³)					
Percentage of wear test (1 per day or 1 per yd ³)					
R-value test (1 per day or 1 per yd ³)					
Receivables					
Manufacturers test reports					
Truck delivery tickets					
Calibration					
Have nuclear density gauge been calibrated and logged daily?					

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form Aerial and Land Surveys

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Does Surveyor have digital copy of current maps and using NAD 83 base?	Prep				
Have Aerial Landmarks been set	Initial				
Has the surveyor integrated Design drawing into base drawings?	Follow Up				
Is the surveyor providing survey cut and fill stakes during grading operations?	Follow Up				
Has the surveyor verified final grades to within 0.01 feet per Design Drawings?	Follow Up				
Field Testing				X	
Lab Testing				X	
Receivables				X	
Digital Aerial base topography map					
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Checklist Form

Demobilization of Equipment, Trailers, Utilities and Team Members

Date: _____
Inspector: _____
Location: _____

Requirement	Phase	Yes	No	N/A	Corrective Action
Field Inspection					
Has all contractor field equipment been removed from the site?	Follow Up				
Have all utilities been shut off with the exception of sprinkler water?	Follow Up				
Have all wastes been removed from the site and either recycled, treated or disposed of at appropriate facilities with documented manifests and delivery certificates?	Follow Up				
Have all surplus materials been removed?	Follow Up				
Are all signs posted?	Follow Up				
Have appropriate maintenance, SWPPP, biological monitoring and weed abatement and repair schedules been coordinated?	Follow Up				
Field Testing				X	
Lab Testing				X	
Receivables				X	
Calibration				X	

Note: Spec's refer to Earth Tech Site Specifications, RAWP refers to Remedial Action Work Plan, SSP refers to Site Health and Safety Plan

Attachment 2
Project QC Representative Appointment Letters



Engineering/Remediation
Resources Group, Inc.
185 Mason Circle, Suite A
Concord, CA 94520

P: 925.969.0750
F: 925.969.0751
www.errg.net

October 26, 2005

Ref.: 23-047

Ms. Cheryl Prowell, P.E.
Quality Control Manager
Engineering/Remediation Resources Group, Inc.
610 W. Ash St. Suite 1605
San Diego, CA 92101

Project QC Representative Appointment Letter
Contract No. N68711-D-6016
Remedial Action, Operable Unit 2B, Landfill Sites 2 and 17
Former Marine Corps Air Station El Toro, California

Dear Ms. Prowell:

This letter will serve as your appointment as the Quality Control Manager (QCM) for the above-referenced project and you are authorized to fulfill the CQC duties. Your duties, responsibilities, and authority in this position are further described below and in the project Quality Control Plan.

In this role, your primary responsibility is to implement the quality program as outlined in the Project Quality Plan and enforce the requirements of Specification Section 01010 General Paragraphs and Section 01300 Submittal Procedures. Where the project-specific plans disagree with the contract specification, the specification shall take precedence and steps will be taken to reconcile the two documents expeditiously.

You are authorized to certify and/or approve submittals in accordance with the project plans and specifications. This appointment specifically allows the authority to stop work in order to provide an end product which complies with the contract requirements and to manage CQC staff in accordance with contract specifications, to direct removal and replacement or correction of nonconforming work. As QCM you have the absolute authority and responsibility to comply with contract specifications and drawings and to take any action necessary to ensure compliance with the contract.

In this capacity you will be expected to work closely with project management and the project team. For the quality function to remain independent of operation activities, and in order to prevent fear of reprisal, the position reports to the President of ERRG.

If you have any questions in this matter, please contact me at (925) 969-0750.

Sincerely,

A handwritten signature in black ink, appearing to read "Cynthia J.", is written over a light blue horizontal line.

Cynthia Liu, P.E.
President and CEO

CL/clp

cc: Project File (23-047)



Engineering/Remediation
Resources Group, Inc.
185 Mason Circle, Suite A
Concord, CA 94520

P: 925.969.0750
F: 925.969.0751
www.errg.net

October 26, 2005

Ref.: 23-047

Mr. Tom Davis
Quality Control Specialist
Engineering/Remediation Resources Group, Inc.
610 W. Ash St. Suite 1605
San Diego, CA 92101

Project QC Representative Appointment Letter
Contract No. N68711-D-6016
Remedial Action, Operable Unit 2B, Landfill Sites 2 and 17
Former Marine Corps Air Station El Toro, California

Dear Mr. Davis:

This letter will serve as your appointment as the Quality Control Specialist (QCS) for the above-referenced project and you are authorized to fulfill the CQC duties. Your duties, responsibilities, and authority in this position are further described below and in the project Quality Control Plan.

In this role, your primary responsibility is to implement the quality program as outlined in the Project Quality Plan and enforce the requirements of Specification Section 01010 General Paragraphs and Section 01300 Submittal Procedures under the direction of the Quality Control Manager. Where the project-specific plans disagree with the contract specification, the specification shall take precedence and steps will be taken to reconcile the two documents expeditiously.

This appointment specifically allows the authority to stop work in order to provide an end product which complies with the contract requirements and to manage CQC staff in accordance with contract specifications, to direct removal and replacement or correction of nonconforming work. As QCM you have the absolute authority and responsibility to comply with contract specifications and drawings and to take any action necessary to ensure compliance with the contract.

In this capacity you will be expected to work closely with project management and the project team. For the quality function to remain independent of operation activities, and in order to prevent fear of reprisal, the position reports to the Quality Control Manager and the President of ERRG.

If you have any questions in this matter, please contact me at (925) 969-0750.

Sincerely,

A handwritten signature in black ink, appearing to read "Cynthia Liu", with a stylized flourish at the end.

Cynthia Liu, P.E.
President and CEO

CL/clp

cc: File (23-047)

Attachment 3

Laboratory Certifications



June 30 2003

RECEIVED

LEA 161

Peter Supko
Ninyo & Moore
475 Goddard, Suite 200
Irvine, CA 92618

JUL 3 2003
NINYO & MOORE
ORANGE COUNTY OFFICE

Dear Mr. Supko:

Congratulations, Ninyo & Moore located in Irvine CA is accepted to provide the testing and special inspection services listed on the attachment for public schools and essential services buildings under the jurisdiction of The Division of the State Architect (DSA). This acceptance will expire on **06/27/2007** and is conditioned upon the following:

1. Lawrence Lovett shall remain employed on a full-time basis and maintain engineering managerial responsibility for all testing and special inspection services provided.
2. The location of the facility will not change.
3. The facility must maintain an adequate number of appropriately qualified special inspectors and technicians.
4. The facility shall provide only DSA approved special masonry inspectors for masonry work on projects under DSA jurisdiction.
5. The facility shall provide only AWS Certified Welding Inspectors to inspect welding on projects under DSA jurisdiction.
6. The facility must maintain all equipment, calibrations, certifications and approvals required by the ASTM standards appropriate to the services provided.
7. The facility must continue to receive biennial visits by the Cement and Concrete Reference Laboratory (CCRL) and must continue to participate in the CCRL Proficiency Sampling Programs relevant to the services provided by the agency (or equivalent programs). These reports are to be forwarded to DSA as they become available.

Thank you for participating in DSA's LEA program. If you have any questions please call me at (916) 445-2193.

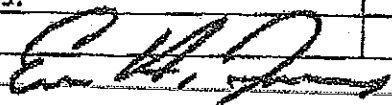
Sincerely,

Eric France
LEA Program

cc: ~~DSA Regional Offices~~
Nancy Poe, Contracts Consultant, Real Estate Services Division

Attachment

TESTING SERVICES ACCEPTED	INSPECTION SERVICES ACCEPTED
Masonry	Masonry Units
<input type="checkbox"/> Portland Cement	<input checked="" type="checkbox"/> Masonry
<input type="checkbox"/> Masonry Units	Wood
<input checked="" type="checkbox"/> Aggregates	<input type="checkbox"/> Light Gage Metal Plate Trusses
<input checked="" type="checkbox"/> Mortar and Grout	<input type="checkbox"/> Glued Laminated Timber Fabrication
<input type="checkbox"/> Masonry Prisms	<input type="checkbox"/> Timber Connector Installation
<input checked="" type="checkbox"/> Masonry Cores	<input type="checkbox"/> Hybrid Trusses Fabrication
<input type="checkbox"/> Masonry Shear	<input type="checkbox"/> Wood-Joists
Concrete	Concrete
<input type="checkbox"/> Portland Cement	<input checked="" type="checkbox"/> Batch Plant
<input checked="" type="checkbox"/> Aggregates	<input checked="" type="checkbox"/> Concrete & Reinforcement Placement
<input checked="" type="checkbox"/> Tensile Splitting	<input checked="" type="checkbox"/> Pre-Stressed Concrete
<input checked="" type="checkbox"/> Concrete Cylinders	<input checked="" type="checkbox"/> Shotcrete
<input checked="" type="checkbox"/> Concrete Cores	<input checked="" type="checkbox"/> Welded Reinforcing Bar
<input type="checkbox"/> Composite Construction Cores	<input checked="" type="checkbox"/> Drilled In Anchors
<input checked="" type="checkbox"/> Shotcrete Cores	<input checked="" type="checkbox"/> Epoxy Injection
<input checked="" type="checkbox"/> Lightweight Concrete Fill Cores	<input type="checkbox"/> Reinforced Gypsum Concrete
<input checked="" type="checkbox"/> Mix Designs	
<input type="checkbox"/> Gypsum	Structural/Light Gage Metals
<input checked="" type="checkbox"/> Expansion & Epoxy Anchors	<input checked="" type="checkbox"/> Shop Fabrication
Concrete/Masonry Reinforcing	<input checked="" type="checkbox"/> High Strength Bolting Installation
<input type="checkbox"/> Reinforcing Bars	<input checked="" type="checkbox"/> Shear Stud Installation
<input type="checkbox"/> Pre-stressed Steel & Anchorage	<input checked="" type="checkbox"/> Welding: (Non-destructive)
<input type="checkbox"/> Rebar Chemical Analysis for Weldability	<input checked="" type="checkbox"/> Visual
Structural/Light Gage Metals	<input type="checkbox"/> Radiographic
<input type="checkbox"/> Structural Metals	<input type="checkbox"/> Magnetic Particle
<input type="checkbox"/> Light Gage Metals	<input type="checkbox"/> Ultrasonic (ASTM E543 & ASNT)
<input type="checkbox"/> High Strength Bolts	<input type="checkbox"/> Liquid Penetrant
<input type="checkbox"/> End Welded Studs	<input type="checkbox"/> Eddy Current
<input type="checkbox"/> Open Web Steel Joists	<input type="checkbox"/> Light Gage Metals
<input type="checkbox"/> Aluminum Alloys	<input type="checkbox"/> Aluminum Alloys
Foundation	Foundation
<input checked="" type="checkbox"/> Fill Material & Soil Compaction	<input checked="" type="checkbox"/> Soil Compaction
<input checked="" type="checkbox"/> Soil Bank Stability	<input checked="" type="checkbox"/> Piles
Roofing	<input checked="" type="checkbox"/> Caissons
<input checked="" type="checkbox"/> Roofing Tiles	Other Capabilities:
Other Capabilities:	



Approved by: _____

Date: June 30, 2003

Division of the State Architect Laboratory Acceptance for HP Inspections (LEA 161) is effective until: 6/26/2007.

State of California Department of Transportation
LABORATORY QUALIFICATION
Form TL-0113 (07 LA, 12-00)

Expiration date: August 5, 2006

Inspection by: John Warrick

IA No.: 57

Phone: (714) 374-7853

File: Materials Category 500

Laboratory: Ninyo & Moore

Address: 475 Goddard Suite 200

City: Irvine

State: CA Zip: 92618

Lab QC Mgr.: Larry Lovett

e-mail: _____

Phone #: (949) 753-7070

Fax #: (949) 753-7071

A certified Independent Assurance (IA) Sampler and Tester visited this laboratory on 8/5/05. Only equipment to be used on Caltrans construction projects and/or local construction projects on the National Highway System projects was checked for qualification.

At the time of Caltrans Qualification, this laboratory had all necessary equipment to perform the tests methods indicated below. Testing personnel shall be Caltrans Qualified and possess a current Caltrans Certificate of Proficiency Form TL-0111 prior to performing any sampling or testing.

105	201	202	216	217	226	227	231	301
304	308	366	370	382	504	518	523	533
540	521	539	204	206	208	367		

A visual check was performed and documents provided as necessary for the following items:

- ☒ A written in-house Safety Program
- ☒ A written in-house Quality Control Program
- ☒ Copies of current (applicable) test procedures
- ☒ A test equipment summary for calibration/service of equipment
- ☒ Calibration/Service stickers affixed to test equipment (dated within the last 12 months)

On 8/5/05 this laboratory was qualified by John Warrick


(IA&T Signature)

Login

**AASHTO Materials Reference Laboratory**[Home](#)[AASHTO Accreditation](#)[Laboratory Assessment](#)[Proficiency Testing](#)**AASHTO Accreditation Details*****Ninyo & Moore, Inc.**

Irvine, California

[Show This Entry Only](#)

Larry Lovett

475 Goddard

Suite 200

Irvine, CA 92618

Phone: (949) 753-7070

Fax: (949) 753-7071

llovett@ninyoandmoore.com<http://www.ninyoandmoore.com>**Hot Mix Asphalt - 11/15/1999**T30 T166 T245 T209 T246 (Stability) T247 T269 T275 T308 - D1559 D1560 (Stability)
D1551 D2041 D2726 D3203 D3666 D5444 D6307**Aggregate - 11/15/1999**T11 T21 T27 T84 T85 T176 T248 T255 - C40 C117 C127 C128 C136 C566 C702 C1077
D2419**Soil - 11/15/1999**T87 T88 T89 T90 T99 T100 T176 T180 T190 T265 T310 - D421 D422 D698 D1140
D1557 D2216 D2419 D2844 D2922 D3017 D3740 D4318**Portland Cement Concrete - 11/15/1999**T22 T23 T119 T121 T141 T152 T196 T231 - C31 C39 C78 C138 C143 C172 C173 C231
C617 C1064 C1077 C1231

*This information is only valid as of 9/20/2005. Please visit <http://www.amrl.net> for current accreditation status.

Get Documents Here:

Notice**Printouts may be outdated**

Paper copies of this page may be outdated and/or altered. Current accreditation information (test methods, suspensions, and contact details) can only be found on the AMRL website. These changes aim to increase the accuracy of the accreditation status for each participating laboratory.

Please Note

The dates displayed beside the field of accreditation correspond to the year of initial accreditation in that field.

State of California Department of Transportation
LABORATORY QUALIFICATION
Form TL-0113 (12 IA, 01-04)

Expiration date: January 26, 2006

Inspection by: Ashley Shaw

IA No.: 68

Phone: (949) 279-8731

File: Materials Category 500

Laboratory: Leighton Consulting Inc.

Address: 17781 Cowan Avenue Suite 150

City: Irvine

State: CA

Zip: 92614

Lab QC Mgr.: Mohammad Fakharpour

e-mail: mfakharpour@leightonconsulting.com

Phone #: (949) 253-5922

Fax #: (949) 263-8843

A certified Independent Assurance (IA) Sampler and Tester visited this laboratory on 1/26/05. Only equipment to be used on Caltrans construction projects and/or local construction projects on the National Highway System projects was checked for qualification.

At the time of Caltrans Qualification, this laboratory had all necessary equipment to perform the tests methods indicated below. Testing personnel shall be Caltrans Qualified and possess a current Caltrans Certificate of Proficiency Form TL-0111 prior to performing any sampling or testing. Testing personnel and Labs maybe disqualified reasons outlined in Independent Assurance Program Manual dated January 2001.

105	201	202	216	217	226	227	231	301
366	308	366	521	523	229	204	504	518
533	539	540						

A visual check was performed and documents provided as necessary for the following items:

- ☒ A written in-house Safety Program
- ☒ A written in-house Quality Control Program
- ☒ Copies of current (applicable) test procedures
- ☒ A test equipment summary for calibration/service of equipment
- ☒ Calibration/Service stickers affixed to test equipment (dated within the last 12 months)

On 1/26/05 this laboratory was qualified by Ashley Shaw

Ashley R Shaw
(IAST Signature)

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
CHRIS LIVESEY
Leighton Consultants Inc.

who is qualified to perform the following tests:

231 Relative Compaction of Soils & Aggregates (Nuclear)

EXPIRES

12 January 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 12 January 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
STEVEN K. THOMAS
Leighton Consultants Inc.

who is qualified to perform the following tests:

231 Relative Compaction of Soils & Aggregates (Nuclear)

EXPIRES

12 January 2006

for: *Behdad Baseghi, District Materials Engineer*

by: _____

Ashley R. Shaw

Ashley Shaw

TL-0111 Issued : 12 January 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to

BRANDON THOMAS
Leighton Consultants Inc.

who is qualified to perform the following tests:

231 Relative Compaction of Soils & Aggregates (Nuclear)

EXPIRES

12 January 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 12 January 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
FRED PERRY
Leighton & Associates

who is qualified to perform the following tests:

231 Relative Compaction of Soils & Aggregates (Nuclear)

EXPIRES

12 January 2006

for: *Behdad Baseghi, District Materials Engineer*

by:

Ashley R Shaw

Ashley Shaw

TL-0111 Issued : 12 January 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
GREGORY BERDY
Leighton Consultants Inc.

who is qualified to perform the following tests:

216 Relative Compaction, Soils & Aggregates

521 Compressive Strength of Molded Concrete Cylinders

EXPIRES

03 February 2006

10 February 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 10 February 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
RYAN DENSMORE
Leighton Consulting Inc.

who is qualified to perform the following tests:

105 Calculations Pertaining to Gradings & SpG
201 Soil & Aggregate Sample Preparation
216 Relative Compaction, Soils & Aggregates
301 "R" Value, Soils & Bases (Stabilometer).
366 Stabilometer Value
211 Abrasion of Coarse Aggregate, LA Rattler Machine
223 Surface Moisture in Concrete Aggregates, (Field).
229 Durability Index

EXPIRES

03 February 2006
03 February 2006
03 February 2006
08 April 2005
08 April 2005
22 June 2005
25 June 2005
12 January 2006

for: *Behdad Baseghi, District Materials Engineer*

by:

Ashley R Shaw
Ashley Shaw

TL-0111 Issued : 03 February 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
GREGORY BERDY
Leighton Consultants Inc.

who is qualified to perform the following tests:

216 Relative Compaction, Soils & Aggregates

EXPIRES

03 February 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 03 February 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
STEVE FELTER
Leighton Consulting Inc.

who is qualified to perform the following tests:

105 Calculations Pertaining to Gradings & SpG	EXPIRES 12 July 2006
201 Soil & Aggregate Sample Preparation	12 July 2006
301 "R" Value, Soils & Bases (Stabilometer).	12 July 2006
366 Stabilometer Value	12 July 2006
521 Compressive Strength of Molded Concrete Cylinders	12 July 2006
523 Flexural Strength of PCC	12 July 2006

for: *Behdad Baseghi, District Materials Engineer*

by:

A handwritten signature in cursive script that reads 'Ashley R. Shaw'.

Ashley Shaw

TL-0111 Issued : 12 July 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
RYAN DENSMORE
Leighton Consulting Inc.

who is qualified to perform the following tests:

105 Calculations Pertaining to Gradings & SpG	EXPIRES 03 February 2006
201 Soil & Aggregate Sample Preparation	03 February 2006
211 Abrasion of Coarse Aggregate, LA Rattler Machine	12 July 2006
216 Relative Compaction, Soils & Aggregates	03 February 2006
223 Surface Moisture in Concrete Aggregates, (Field).	12 July 2006
229 Durability Index	12 January 2006
301 "R" Value, Soils & Bases (Stabilometer).	14 July 2006
366 Stabilometer Value	14 July 2006
521 Compressive Strength of Molded Concrete Cylinders	10 February 2006
523 Flexural Strength of PCC	26 May 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 14 July 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to

FIROOZ TABIBKHOEI
Leighton Consulting Inc.

who is qualified to perform the following tests:

105 Calculations Pertaining to Gradings & SpG
201 Soil & Aggregate Sample Preparation
211 Abrasion of Coarse Aggregate, LA Rattler Machine
217 Sand Equivalent
223 Surface Moisture in Concrete Aggregates, (Field).
523 Flexural Strength of PCC

EXPIRES

12 July 2006
12 July 2006
12 July 2006
06 July 2006
12 July 2006
19 October 2005

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 12 July 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
JAMES WARD
Leighton Consulting Inc.

who is qualified to perform the following tests:

	EXPIRES
105 Calculations Pertaining to Gradings & SpG	13 April 2006
201 Soil & Aggregate Sample Preparation	13 April 2006
202 Sieve Analysis of Fine & Coarse Aggregates	13 April 2006
204 Plasticity Index of Soils	12 January 2006
216 Relative Compaction, Soils & Aggregates	13 April 2006
217 Sand Equivalent	13 April 2006
226 Determination of Moisture Content by Oven Drying	13 April 2006
229 Durability Index	12 January 2006
521 Compressive Strength of Molded Concrete Cylinders	13 April 2006
523 Flexural Strength of PCC	13 April 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 13 April 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
RODEL ABANADOR
Leighton Consulting Inc.

who is qualified to perform the following tests:

- 105 Calculations Pertaining to Gradings & SpG
- 201 Soil & Aggregate Sample Preparation
- 202 Sieve Analysis of Fine & Coarse Aggregates
- 204 Plasticity Index of Soils

EXPIRES

08 April 2006
08 April 2006
08 April 2006
08 February 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 08 April 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
GOPAL BATHALA
Leighton Consulting Inc.

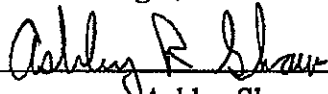
who is qualified to perform the following tests:

105 Calculations Pertaining to Gradings & SpG
201 Soil & Aggregate Sample Preparation
202 Sieve Analysis of Fine & Coarse Aggregates
204 Plasticity Index of Soils
216 Relative Compaction, Soils & Aggregates
217 Sand Equivalent
226 Determination of Moisture Content by Oven Drying

EXPIRES

11 April 2006
11 April 2006
11 April 2006
08 February 2006
16 December 2005
11 April 2006
11 April 2006

for: *Behdad Baseghi, District Materials Engineer*

by: 
Ashley Shaw

TL-0111 Issued : 11 April 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
ALLAN SANTOS
Leighton Consulting Inc.

who is qualified to perform the following tests:

105 Calculations Pertaining to Gradings & SpG	13 April 2006
201 Soil & Aggregate Sample Preparation	13 April 2006
202 Sieve Analysis of Fine & Coarse Aggregates	13 April 2006
204 Plasticity Index of Soils	08 February 2006
216 Relative Compaction, Soils & Aggregates	26 May 2006
217 Sand Equivalent	13 April 2006
226 Determination of Moisture Content by Oven Drying	13 April 2006
227 Evaluating Cleanness of Coarse Aggregate	13 April 2006
301 "R" Value, Soils & Bases (Stabilometer).	26 May 2006
308 Bulk SpG & Wt. Per Cubic Foot, Bituminous Mixture	26 May 2006
366 Stabilometer Value	26 May 2006
523 Flexural Strength of PCC	26 May 2006

EXPIRES

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 26 May 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to

VIRGILIO A. JULIANO
Leighton Consulting Inc.

who is qualified to perform the following tests:

105 Calculations Pertaining to Gradings & SpG	12 April 2006
201 Soil & Aggregate Sample Preparation	12 April 2006
202 Sieve Analysis of Fine & Coarse Aggregates	12 April 2006
216 Relative Compaction, Soils & Aggregates	12 April 2006
217 Sand Equivalent	12 April 2006
226 Determination of Moisture Content by Oven Drying	12 April 2006
227 Evaluating Cleanness of Coarse Aggregate	12 April 2006

EXPIRES

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley B Shaw*
Ashley Shaw

TL-0111 Issued : 12 April 2005

IA Phone No. : (714) 688-1974

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.

CALIFORNIA DEPARTMENT OF TRANSPORTATION



Presents this
CERTIFICATE OF PROFICIENCY
to
STEVEN K. THOMAS
Leighton Consultants Inc.

who is qualified to perform the following tests:

231 Relative Compaction of Soils & Aggregates (Nuclear)
125a Sampling Highway Materials & Products (AC)
125b Sampling Highway Materials & Products (AGG)
375a In-Place Density & Relative Compaction, AC Pavement (Parts 1,3,4, & 6)

EXPIRES

12 January 2006
26 August 2006
26 August 2006
26 August 2006

for: *Behdad Baseghi, District Materials Engineer*

by: *Ashley R Shaw*
Ashley Shaw

TL-0111 Issued : 26 August 2005

IA Phone No. : (714) 374-7863

Certified Independent Assurance

IA Certificate No. : 068

note: This certificate is valid as long as the Acceptance Tester complies with applicable requirements in Caltrans *Independent Assurance Program Manual*.



AASHTO Materials Reference Laboratory

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY • 100 BUREAU DRIVE, STOP 8619 • BUILDING 202, ROOM 211 • GAITHERSBURG, MD 20899-8619

♦ phone: 301.975.5450 ♦

fax: 301.975.8208 ♦

e-mail: info@amrl.net ♦

website: www.amrl.net ♦

January 7, 2005

Mr. Mohammad H. Fakharpour
Director of Operations
Leighton Consulting, Inc.
17781 Cowan
Irvine, CA 92614-6009

Dear Mr. Fakharpour:

We have received your accreditation request form and have enrolled your Irvine laboratory for an on-site assessment of your hot mix asphalt, soil and aggregate testing facility. We will arrange to have an assessor to visit your laboratory at the earliest possible date compatible with our established tour sequence. You will receive approximately three weeks advance notice of the assessor's anticipated arrival date.

This letter serves only as an acknowledgement that you have requested an on-site assessment. It does not indicate proof of an assessment since you have the option of canceling prior to the assessor's visit to your laboratory.

We appreciate your interest in our program and look forward to visiting your laboratory.

Sincerely,

David A. Savage, Laboratory Assessment Supervisor
AASHTO Materials Reference Laboratory

DAS: lm



AASHTO Materials Reference Laboratory

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ♦ 100 BUREAU DRIVE, STOP 8619 ♦ BUILDING 202, ROOM 211 ♦ GAITHERSBURG, MD 20899-8619

♦ phone: 301.975.5450 ♦

fax: 301.975.8208 ♦

e-mail: info@amrl.net ♦

website: www.amrl.net ♦

January 7, 2005

Mr. Mohammad H. Fakharpour
Director of Operations
Leighton Consulting, Inc.
17781 Cowan
Irvine, CA 92614-6009

Dear Mr. Fakharpour:

We have received your accreditation request form and have enrolled your Temecula laboratory for an on-site assessment of your soil and aggregate testing facility. We will arrange to have an assessor to visit your laboratory at the earliest possible date compatible with our established tour sequence. You will receive approximately three weeks advance notice of the assessor's anticipated arrival date.

This letter serves only as an acknowledgement that you have requested an on-site assessment. It does not indicate proof of an assessment since you have the option of canceling prior to the assessor's visit to your laboratory.

We appreciate your interest in our program and look forward to visiting your laboratory.

Sincerely,

David A. Savage, Laboratory Assessment Supervisor
AASHTO Materials Reference Laboratory

DAS: lm



DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING SERVICE CENTER
1100 23RD AVE
PORT HUENEME CA 93043-4370

IN REPLY REFER TO:

NFESC 413
June 28, 2005

Ms. Kenette Pimentel
Quality Assurance Manager
EMAX Laboratories, Inc.
1835 205th Street
Torrance, CA 90503

Dear Ms. Pimentel,

This correspondence addresses the status of EMAX Laboratories, Inc (EMAX) of Torrance, CA in the Navy Installation Restoration (IR) Quality Assurance (QA) Program as administered by the Naval Facilities Engineering Service Center (NFESC).

Your laboratory is accepted to perform sample analysis for the methods listed in Table 1. The period of acceptance expires September 30, 2005. This acceptance does not guarantee the delivery of any analytical samples. Acceptance is facility specific and can not be transferred to an affiliated or subcontract laboratory.

The Navy's review included a review of the laboratory's QA manual, selected standard operating procedures (SOPs) and SOP master list, list of major analytical instrumentation, performance test (PT) results and NELAC onsite audit documentation.

The Navy reserves the right to conduct additional laboratory assessments or to suspend or revoke acceptance status for any or all of the listed parameters if deemed necessary.

Table 1

300 series	Anions Chloride, Fluoride, Sulfate, nitrate, Nitrite, and Ortho-phosphate	Water
8021B	Aromatic Volatile Organics	Water
9010B/9012A	Cyanide	Water
9013	Cyanide	Solids
8330	Explosives	Water/solids
8151A	Herbicides	Water/solids
8081A	Organochlorine Pesticides	Water/Solids
8082	Polychlorinated Biphenyls	Water/Solids
8310	Polynuclear Aromatic Hydrocarbons	Water/Solids
8270C	Semivolatile Organics	Water/Solids
SW-846	TAL Metals: Aluminum, Antimony, Arsenic, Barium,	Water/Solids

NFESC 413
June 28, 2005

	Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium and Zinc	
Mod 8015	Total Petroleum Hydrocarbons-GRO	Water/Solids
Mod 8015	Total Petroleum Hydrocarbons-DRO	Water/Solids
8260B	Volatile Organics	Water/ Solids

Acceptance for use for parameters not identified on the table will be determined by Navy project personnel.

The laboratory should notify NFESC if there are parameters not presented on Table 1 that the laboratory expects to run on a routine basis in support of Navy installation restoration projects. In these circumstances the laboratory's capability to run the tests will be reviewed and the table will be modified accordingly.

Questions concerning the information provided should be directed to the NFESC IR QA Program coordinator, Ms. Patricia Moreno at (805) 982-1659, or via email at pati.moreno@navy.mil

Sincerely,



Robert J. Krazke
Supervisor, Consultation/Information
Management Branch



State of California—Health and Human Services Agency
Department of Health Services



SANDRA SHENRY
Director

ARNOLD SCHWARZENEGGER
Governor

September 1, 2005

Certificate No.: 02116CA

KAM FANG, Ph.D.
EMAX LABORATORIES, INC.
1835 205th STREET
TORRANCE, CA 90501

Dear KAM FANG, Ph.D.:

This is to advise you that the laboratory named above has been accredited under National Environmental Laboratory Accreditation Program (NELAP) as an environmental testing laboratory pursuant to the provisions of the California Environmental Laboratory Improvement Act (Health and Safety Code (HSC), Division 101, Part 1, Chapter 4, Section 100825, et seq.).

The Fields of Accreditation for which this laboratory has been accredited under this Act are enclosed. Accreditation shall remain in effect until **August 31, 2006** unless revoked or withdrawn at your written request. To maintain accreditation, the laboratory shall comply with the National Environmental Laboratory Accreditation Conference (NELAC) Standards and all associated California Environmental Laboratory Accreditation Program (ELAP) regulations and statutes.

Please note that your laboratory is required to notify California ELAP of any major changes in key accreditation criteria within 30 calendar days of the change. This written notification includes but is not limited to changes in ownership, location, key personnel, and major instrumentation (Section 100845(b) and (d), HSC, and NELAC Standard Section 4.3.2). The certificate must be returned to California ELAP upon loss of accreditation.

Your continued cooperation is essential to maintain high quality of the data produced by environmental laboratories accredited by the State of California.

If you have any questions, please contact Riz Parangalan at (510) 620-3155.

Sincerely,

George C. Kulasingam, Ph.D.
Program Chief
Environmental Laboratory Accreditation Program

Enclosure

**STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM**

NELAP - RECOGNIZED

ACCREDITATION

Is hereby granted to

EMAX LABORATORIES, INC.

**1835 WEST 205th STREET
TORRANCE, CA 90501**

Scope of accreditation is limited to the
"NELAP Fields of Accreditation"
which accompanies this Certificate.

Continued accredited status depends on successful
ongoing participation in the program.

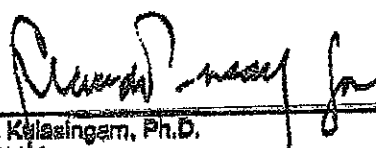
This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No.: 02116CA

Expiration Date: 08/31/2006

Effective Date: 08/31/2005

Richmond, California
subject to forfeiture or revocation


George C. Kelasingam, Ph.D.
Program Chief
Environmental Laboratory Accreditation Program



CALIFORNIA DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM - NELAP RECOGNIZED
Fields of Accreditation



EMAX LABORATORIES, INC.

Lab Phone (310) 618-8889

1835 WEST 205th STREET
TORRANCE, CA 90501

Certificate No: 02118CA Renew Date: 02/31/2008

102 - Inorganic Chemistry of Drinking Water

102.030	001	EPA 300.0	Bromide
102.030	002	EPA 300.0	Chlorate
102.030	003	EPA 300.0	Chloride
102.030	005	EPA 300.0	Fluoride
102.030	006	EPA 300.0	Nitrate
102.030	007	EPA 300.0	Nitrite
102.030	008	EPA 300.0	Phosphate, Ortho
102.030	010	EPA 300.0	Sulfate
102.040	004	EPA 300.1	Bromate
102.045	001	EPA 314.0	Perchlorate
102.100	001	SM2230B	Alkalinity
102.120	001	SM2240B	Hardness
102.121	001	SM2240C	Hardness
102.130	001	SM22510B	Conductivity
102.140	001	SM2240C	Total Dissolved Solids
102.145	001	EPA 100.1	Total Dissolved Solids
102.150	001	SM4110B	Chloride
102.150	002	SM4110B	Fluoride
102.150	003	SM4110B	Nitrate
102.150	004	SM4110B	Nitrite
102.150	005	SM4110B	Phosphate, Ortho
102.150	006	SM4110B	Sulfate
102.200	001	SM4500-F C	Fluoride
102.280	001	SM5310B	Total Organic Carbon
102.281	001	SM5310B	DOC
102.270	001	SM5340C	Surfactants
102.520	001	EPA 200.7	Calcium
102.520	002	EPA 200.7	Magnesium
102.520	003	EPA 200.7	Potassium
102.520	004	EPA 200.7	Silica
102.520	005	EPA 200.7	Sodium

103 - Toxic Chemical Elements of Drinking Water

103.130	001	EPA 200.7	Aluminum
103.130	002	EPA 200.7	Arsenic
103.130	003	EPA 200.7	Barium
103.130	004	EPA 200.7	Beryllium
103.130	005	EPA 200.7	Cadmium
103.130	007	EPA 200.7	Chromium
103.130	008	EPA 200.7	Copper

As of 09/01/2005, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02116CA
Renew Date: 08/31/2006

103.130	009	EPA 200.7	Iron
103.130	011	EPA 200.7	Manganese
103.130	012	EPA 200.7	Nickel
103.130	015	EPA 200.7	Silver
103.130	017	EPA 200.7	Zinc
103.140	001	EPA 200.8	Aluminum
103.140	002	EPA 200.8	Antimony
103.140	003	EPA 200.8	Arsenic
103.140	004	EPA 200.8	Barium
103.140	005	EPA 200.8	Beryllium
103.140	006	EPA 200.8	Cadmium
103.140	007	EPA 200.8	Chromium
103.140	008	EPA 200.8	Copper
103.140	009	EPA 200.8	Lead
103.140	010	EPA 200.8	Manganese
103.140	011	EPA 200.8	Mercury
103.140	012	EPA 200.8	Nickel
103.140	013	EPA 200.8	Selenium
103.140	014	EPA 200.8	Silver
103.140	015	EPA 200.8	Thallium
103.140	016	EPA 200.8	Zinc
103.161	001	EPA 245.2	Mercury
103.210	001	EPA 218.6	Chromium (VI)
104 - Volatile Organic Chemistry of Drinking Water			
104.030	001	EPA 504.1	1,2-Dibromoethane
104.030	002	EPA 504.1	1,2-Dibromo-3-chloropropane
104.040	001	EPA 524.2	Benzene
104.040	002	EPA 524.2	Bromobenzene
104.040	003	EPA 524.2	Bromochloromethane
104.040	005	EPA 524.2	Bromomethane
104.040	007	EPA 524.2	n-Butylbenzene
104.040	008	EPA 524.2	sec-Butylbenzene
104.040	009	EPA 524.2	tert-Butylbenzene
104.040	010	EPA 524.2	Carbon Tetrachloride
104.040	011	EPA 524.2	Chlorobenzene
104.040	012	EPA 524.2	Chloroethane
104.040	014	EPA 524.2	Chloromethane
104.040	015	EPA 524.2	2-Chlorotoluene
104.040	016	EPA 524.2	4-Chlorotoluene
104.040	018	EPA 524.2	Dibromomethane
104.040	019	EPA 524.2	1,3-Dichlorobenzene
104.040	020	EPA 524.2	1,2-Dichlorobenzene
104.040	021	EPA 524.2	1,4-Dichlorobenzene
104.040	022	EPA 524.2	Dichlorodifluoromethane
104.040	023	EPA 524.2	1,1-Dichloroethane
104.040	024	EPA 524.2	1,2-Dichloroethane
104.040	025	EPA 524.2	1,1-Dichloroethane
104.040	026	EPA 524.2	cis-1,2-Dichloroethane

As of 09/01/2005, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02116CA
 Renew Date: 06/31/2008

104.040	027	EPA 524.2	trans-1,2-Dichloroethane
104.040	028	EPA 524.2	Dichloromethane
104.040	029	EPA 524.2	1,2-Dichloropropane
104.040	030	EPA 524.2	1,3-Dichloropropane
104.040	031	EPA 524.2	2,3-Dichloropropane
104.040	032	EPA 524.2	1,1-Dichloropropane
104.040	033	EPA 524.2	cis-1,3-Dichloropropane
104.040	034	EPA 524.2	trans-1,3-Dichloropropane
104.040	035	EPA 524.2	Ethylbenzene
104.040	036	EPA 524.2	Hexachlorobutadiene
104.040	037	EPA 524.2	Isopropylbenzene
104.040	038	EPA 524.2	4-Isopropyltoluene
104.040	039	EPA 524.2	Naphthalene
104.040	040	EPA 524.2	Nitrobenzene
104.040	041	EPA 524.2	N-propylbenzene
104.040	042	EPA 524.2	Styrene
104.040	043	EPA 524.2	1,1,1,2-Tetrachloroethane
104.040	044	EPA 524.2	1,1,2,2-Tetrachloroethane
104.040	045	EPA 524.2	Tetrachloroethene
104.040	046	EPA 524.2	Toluene
104.040	047	EPA 524.2	1,2,3-Trichlorobenzene
104.040	048	EPA 524.2	1,2,4-Trichlorobenzene
104.040	049	EPA 524.2	1,1,1-Trichloroethane
104.040	050	EPA 524.2	1,1,2-Trichloroethane
104.040	051	EPA 524.2	Trichloroethene
104.040	052	EPA 524.2	Trichlorofluoromethane
104.040	053	EPA 524.2	1,2,3-Trichloropropane
104.040	054	EPA 524.2	1,2,4-Trimethylbenzene
104.040	055	EPA 524.2	1,3,5-Trimethylbenzene
104.040	056	EPA 524.2	Vinyl Chloride
104.040	057	EPA 524.2	Xylenes, Total
104.045	001	EPA 524.2	Bromodichloromethane
104.045	002	EPA 524.2	Bromoform
104.045	003	EPA 524.2	Chloroform
104.045	004	EPA 524.2	Dibromochloromethane
104.045	005	EPA 524.2	Trihalomethanes
104.050	002	EPA 524.2	Methyl tert-butyl Ether (MTBE)
104.050	004	EPA 524.2	tert-Amyl Methyl Ether (TAME)
104.050	005	EPA 524.2	Ethyl tert-butyl Ether (ETBE)
104.050	006	EPA 524.2	Trichlorotrifluoroethane
108 - Inorganic Chemistry of Wastewater			
108.016	001	EPA 110.2	Color
108.020	001	EPA 120.1	Conductivity
108.030	001	EPA 130.1	Hardness
108.040	001	EPA 130.2	Hardness
108.050	001	EPA 150.1	pH
108.060	001	EPA 160.1	Residue, Filterable
108.070	001	EPA 160.2	Residue, Non-filterable

As of 09/01/2005, this list supersedes all previous lists for this certificate number.
 Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02118CA
Renew Date: 08/31/2006

108.090	001	EPA 180.3	Residue, Total
108.090	001	EPA 180.4	Residue, Volatile
108.100	001	EPA 180.5	Residue, Sediment
108.110	001	EPA 180.1	Turbidity
108.112	001	EPA 200.7	Boron
108.112	002	EPA 200.7	Calcium
108.112	004	EPA 200.7	Magnesium
108.112	005	EPA 200.7	Potassium
108.112	006	EPA 200.7	Silica
108.112	007	EPA 200.7	Sodium
108.120	001	EPA 300.0	Bromide
108.120	002	EPA 300.0	Chloride
108.120	003	EPA 300.0	Fluoride
108.120	004	EPA 300.0	Nitrate
108.120	005	EPA 300.0	Nitrite
108.120	006	EPA 300.0	Nitrate-nitrite, Total
108.120	007	EPA 300.0	Phosphate, Ortho
108.120	008	EPA 300.0	Sulfate
108.130	001	EPA 305.1	Acidity
108.140	001	EPA 310.1	Alkalinity
108.172	001	EPA 330.3	Chlorine Residual, Total
108.180	001	EPA 335.1	Cyanide, amenable
108.181	001	EPA 335.2	Cyanide, Total
108.191	001	EPA 340.2	Fluoride
108.201	001	EPA 350.2	Ammonia
108.212	001	EPA 351.3	Kjeldahl Nitrogen
108.234	001	EPA 353.3	Nitrate-nitrite, Total
108.235	001	EPA 353.3	Nitrate calc.
108.262	001	EPA 365.2	Phosphate, Ortho
108.263	001	EPA 365.2	Phosphorus, Total
108.270	001	EPA 370.1	Dissolved Silica
108.290	001	EPA 375.1	Sulfide
108.291	001	EPA 375.2	Sulfide
108.300	001	EPA 377.1	Sulfide
108.310	001	EPA 405.1	Biochemical Oxygen Demand
108.328	001	EPA 410.4	Chemical Oxygen Demand
108.330	001	EPA 413.1	Oil and Grease
108.340	001	EPA 415.1	Total Organic Carbon
108.350	001	EPA 418.1	Total Recoverable Petroleum Hydrocarbons
108.360	001	EPA 420.1	Phenols, Total
108.370	001	EPA 423.1	Surfactants
108.380	001	EPA 1654	Oil and Grease
108.390	001	SM2130B	Turbidity
108.400	001	SM2310B	Acidity
108.410	001	SM2320B	Alkalinity
108.430	001	SM2340B	Hardness (calc.)
108.421	001	SM2340C	Hardness
108.430	001	SM2510B	Conductivity

As of 08/01/2005 this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02116CA
 Renew Date: 08/31/2008

108.440	001	SM25408	Residue, Total
108.441	001	SM25409	Residue, Filterable
108.442	001	SM2540D	Residue, Non-filterable
108.443	001	SM2540F	Residue, Setttable
108.490	001	SM4500-FC	Fluoride
108.490	001	SM4500-H+ B	pH
108.590	001	SM52108	Biochemical Oxygen Demand
109.902	001	SM5220D	Chemical Oxygen Demand
109.910	001	SM53108	Total Organic Carbon
109.990	001	SM55208	Oil and Grease

100 - Toxic Chemical Elements of Wastewater

109.010	001	EPA 200.7	Aluminum
109.010	002	EPA 200.7	Antimony
109.010	003	EPA 200.7	Arsenic
109.010	004	EPA 200.7	Barium
109.010	005	EPA 200.7	Beryllium
109.010	007	EPA 200.7	Cadmium
109.010	009	EPA 200.7	Chromium
109.010	010	EPA 200.7	Cobalt
109.010	011	EPA 200.7	Copper
109.010	012	EPA 200.7	Iron
109.010	013	EPA 200.7	Lead
109.010	015	EPA 200.7	Manganese
109.010	016	EPA 200.7	Molybdenum
109.010	017	EPA 200.7	Nickel
109.010	019	EPA 200.7	Selenium
109.010	021	EPA 200.7	Silver
109.010	023	EPA 200.7	Thallium
109.010	024	EPA 200.7	Tin
109.010	025	EPA 200.7	Titanium
109.010	026	EPA 200.7	Vanadium
109.010	027	EPA 200.7	Zinc
109.020	001	EPA 200.8	Aluminum
109.020	002	EPA 200.8	Antimony
109.020	003	EPA 200.8	Arsenic
109.020	004	EPA 200.8	Barium
109.020	005	EPA 200.8	Beryllium
109.020	006	EPA 200.8	Cadmium
109.020	007	EPA 200.8	Chromium
109.020	008	EPA 200.8	Cobalt
109.020	010	EPA 200.8	Lead
109.020	011	EPA 200.8	Manganese
109.020	012	EPA 200.8	Molybdenum
109.020	013	EPA 200.8	Nickel
109.020	014	EPA 200.8	Selenium
109.020	015	EPA 200.8	Silver
109.020	016	EPA 200.8	Thallium
109.020	017	EPA 200.8	Vanadium

As of 08/01/2008, this list supersedes all previous lists for this certificate number.
 Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02118CA
Renew Date: 08/31/2006

109.020	019	EPA 200.6	Zinc
109.104	001	EPA 218.6	Chromium (VI)
110 - Volatile Organic Chemistry of Wastewater			
110.040	001	EPA 824	Benzene
110.040	002	EPA 824	Bromodichloromethane
110.040	003	EPA 824	Bromoform
110.040	004	EPA 824	Bromomethane
110.040	005	EPA 824	Carbon Tetrachloride
110.040	006	EPA 824	Chlorobenzene
110.040	007	EPA 824	Chloroethane
110.040	008	EPA 824	2-Chloroethyl Vinyl Ether
110.040	009	EPA 824	Chloroform
110.040	010	EPA 824	Chloromethane
110.040	011	EPA 824	Dibromochloromethane
110.040	012	EPA 824	1,2-Dichlorobenzene
110.040	013	EPA 824	1,3-Dichlorobenzene
110.040	014	EPA 824	1,4-Dichlorobenzene
110.040	015	EPA 824	1,1-Dichloroethane
110.040	016	EPA 824	1,2-Dichloroethane
110.040	017	EPA 824	1,1-Dichloroethene
110.040	018	EPA 824	trans-1,2-Dichloroethene
110.040	019	EPA 824	1,3-Dichloropropane
110.040	020	EPA 824	cis-1,3-Dichloropropane
110.040	021	EPA 824	trans-1,3-Dichloropropane
110.040	022	EPA 824	Ethylbenzene
110.040	023	EPA 824	Methylene Chloride
110.040	024	EPA 824	1,1,2,2-Tetrachloroethane
110.040	025	EPA 824	Tetrachloroethene
110.040	026	EPA 824	Toluene
110.040	027	EPA 824	1,1,1-Trichloroethane
110.040	028	EPA 824	1,1,2-Trichloroethane
110.040	029	EPA 824	Trichloroethene
110.040	030	EPA 824	Trichlorofluoromethane
110.040	031	EPA 824	Vinyl Chloride
110.040	042	EPA 824	Oxygenates
114 - Inorganic Chemistry of Hazardous Waste			
114.010	001	EPA 6010B	Antimony
114.010	002	EPA 6010B	Arsenic
114.010	003	EPA 6010B	Barium
114.010	004	EPA 6010B	Beryllium
114.010	005	EPA 6010B	Cadmium
114.010	006	EPA 6010B	Chromium
114.010	007	EPA 6010B	Cobalt
114.010	008	EPA 6010B	Copper
114.010	009	EPA 6010B	Lead
114.010	010	EPA 6010B	Molybdenum
114.010	011	EPA 6010B	Nickel
114.010	012	EPA 6010B	Selenium

As of 08/01/2005 this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02116CA
 Renew Date: 08/31/2006

114.010	018	EPA 8010B	Silver
114.010	014	EPA 8010B	Thallium
114.010	016	EPA 8010B	Vanadium
114.010	018	EPA 8010B	Zinc
114.020	001	EPA 8020	Antimony
114.020	002	EPA 8020	Arsenic
114.020	003	EPA 8020	Barium
114.020	004	EPA 8020	Beryllium
114.020	006	EPA 8020	Cadmium
114.020	008	EPA 8020	Chromium
114.020	007	EPA 8020	Cobalt
114.020	008	EPA 8020	Copper
114.020	009	EPA 8020	Lead
114.020	010	EPA 8020	Molybdenum
114.020	011	EPA 8020	Nickel
114.020	012	EPA 8020	Selenium
114.020	013	EPA 8020	Silver
114.020	014	EPA 8020	Thallium
114.020	015	EPA 8020	Vanadium
114.020	016	EPA 8020	Zinc
114.031	001	EPA 7041	Antimony
114.040	001	EPA 7060A	Arsenic
114.051	001	EPA 7131A	Cadmium
114.051	001	EPA 7191	Chromium
114.103	001	EPA 7198A	Chromium (VI)
114.108	001	EPA 7199	Chromium (VI)
114.121	001	EPA 7211	Copper
114.131	001	EPA 7421	Lead
114.143	001	EPA 7470A	Mercury
114.141	001	EPA 7471A	Mercury
114.170	001	EPA 7740	Selenium
114.181	001	EPA 7751	Silver
114.191	001	EPA 7841	Thallium
114.222	001	EPA 8014	Cyanide
114.230	001	EPA 8034	Sulfides, Total
114.240	001	EPA 8040	pH
114.241	001	EPA 8045	pH
114.250	001	EPA 8056	Fluoride
115 - Extraction Test of Hazardous Waste			
115.020	001	EPA 1311	Toxicity Characteristic Leaching Procedure (TCLP)
115.030	001	OCR Chapter 11, Article 5, Appendix II	Waste Extraction Test (WET)
115.040	001	EPA 1312	Synthetic Precipitation Leaching Procedure (SPLP)
116 - Volatile Organic Chemistry of Hazardous Waste			
116.010	001	EPA 8011	1,2-Dibromomethane
116.010	002	EPA 8011	Dibromochloropropane
116.020	011	EPA 8015B	Ethylene Glycol
116.030	001	EPA 8015B	Gasoline-range Organics
116.040	002	EPA 8021B	Benzene

As of 08/01/2006, this list supersedes all previous lists for this certificate number.
 Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02118CA
Renew Date: 08/31/2006

118.040	038	EPA 8021B	Ethylbenzene
118.040	041	EPA 8021B	Methyl tert-butyl Ether (MTBE)
118.040	047	EPA 8021B	Toluene
118.040	055	EPA 8021B	Xylenes, Total
118.080	001	EPA 8260B	Acetone
118.080	002	EPA 8260B	Acetonitrile
118.080	003	EPA 8260B	Acrolein
118.080	004	EPA 8260B	Acrylonitrile
118.080	005	EPA 8260B	Allyl Alcohol
118.080	006	EPA 8260B	Allyl Chloride
118.080	007	EPA 8260B	Benzene
118.080	008	EPA 8260B	Bromoacetone
118.080	010	EPA 8260B	Bromochloromethane
118.080	011	EPA 8260B	Bromodichloromethane
118.080	012	EPA 8260B	Bromoform
118.080	013	EPA 8260B	Bromomethane
118.080	014	EPA 8260B	n-Butyl Alcohol
118.080	015	EPA 8260B	Carbon Disulfide
118.080	016	EPA 8260B	Carbon Tetrachloride
118.080	018	EPA 8260B	Chlorobenzene
118.080	019	EPA 8260B	Chloroethane
118.080	020	EPA 8260B	2-Chloroethyl Vinyl Ether
118.080	021	EPA 8260B	Chloroform
118.080	022	EPA 8260B	Chloromethane
118.080	023	EPA 8260B	Chloroprene
118.080	024	EPA 8260B	3-Chloropropionitrile
118.080	025	EPA 8260B	Crotonaldehyde
118.080	026	EPA 8260B	Dibromochloromethane
118.080	027	EPA 8260B	Dibromochloropropane
118.080	028	EPA 8260B	1,2-Dibromoethane
118.080	030	EPA 8260B	Dibromomethane
118.080	031	EPA 8260B	1,2-Dichlorobenzene
118.080	032	EPA 8260B	1,3-Dichlorobenzene
118.080	033	EPA 8260B	1,4-Dichlorobenzene
118.080	034	EPA 8260B	cis-1,4-Dichloro-2-butene
118.080	035	EPA 8260B	trans-1,4-Dichloro-2-butene
118.080	036	EPA 8260B	Dichlorodifluoromethane
118.080	037	EPA 8260B	1,1-Dichloroethane
118.080	038	EPA 8260B	1,2-Dichloroethane
118.080	039	EPA 8260B	1,1-Dichloroethane
118.080	040	EPA 8260B	trans-1,2-Dichloroethene
118.080	041	EPA 8260B	cis-1,2-Dichloroethene
118.080	042	EPA 8260B	1,2-Dichloropropane
118.080	043	EPA 8260B	1,3-Dichloropropane
118.080	044	EPA 8260B	2,2-Dichloropropane
118.080	045	EPA 8260B	1,1-Dichloropropane
118.080	046	EPA 8260B	cis-1,3-Dichloropropene
118.080	047	EPA 8260B	trans-1,3-Dichloropropene

As of 08/01/2005 this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

 Certificate No: 02116CA
 Renew Date: 08/31/2006

116.080	048	EPA 8260B	1,3-Dichloro-2-propanol
116.080	049	EPA 8260B	1,2,3,4-Dichlorobutane
116.080	050	EPA 8260B	1,4-Dioxane
116.080	053	EPA 8260B	Ethylbenzene
116.080	056	EPA 8260B	Ethyl Methacrylate
116.080	058	EPA 8260B	Hexachlorocyclopentadiene
116.080	059	EPA 8260B	2-Hexanone (MBK)
116.080	058	EPA 8260B	Iodomethane
116.080	060	EPA 8260B	Isobutyl Alcohol
116.080	061	EPA 8260B	Malononitrile
116.080	062	EPA 8260B	Methacrylonitrile
116.080	064	EPA 8260B	Methyl tert-butyl Ether (MTBE)
116.080	065	EPA 8260B	Methylene Chloride
116.080	068	EPA 8260B	Methyl Ethyl Ketone
116.080	067	EPA 8260B	Methyl Methacrylate
116.080	068	EPA 8260B	4-Methyl-2-pentanone (MIBK)
116.080	069	EPA 8260B	Naphthalene
116.080	070	EPA 8260B	Nitrobenzene
116.080	072	EPA 8260B	N-nitrosod-n-butylamine
116.080	074	EPA 8260B	Pentachloroethane
116.080	075	EPA 8260B	Pentafluorobenzene
116.080	076	EPA 8260B	2-Picoline
116.080	078	EPA 8260B	Propionitrile
116.080	079	EPA 8260B	N-propylamine
116.080	080	EPA 8260B	Pyridine
116.080	081	EPA 8260B	1,1,1,2-Tetrachloroethane
116.080	083	EPA 8260B	1,1,2,2-Tetrachloroethane
116.080	083	EPA 8260B	Tetrachloroethane
116.080	084	EPA 8260B	Toluene
116.080	086	EPA 8260B	1,2,3-Trichlorobenzene
116.080	087	EPA 8260B	1,2,4-Trichlorobenzene
116.080	088	EPA 8260B	1,1,1-Trichloroethane
116.080	089	EPA 8260B	1,1,2-Trichloroethane
116.080	090	EPA 8260B	Trichloroethene
116.080	091	EPA 8260B	Trichlorofluoromethane
116.080	092	EPA 8260B	1,2,3-Trichloropropane
116.080	093	EPA 8260B	Vinyl Acetate
116.080	094	EPA 8260B	Vinyl Chloride
116.080	095	EPA 8260B	Xylenes, Total
116.080	096	EPA 8260B	tert-Amyl Methyl Ether (TAME)
116.080	097	EPA 8260B	tert-Butyl Alcohol (TBA)
116.080	098	EPA 8260B	Ethyl tert-butyl Ether (ETBE)
116.080	099	EPA 8260B	Bromobenzene
116.080	100	EPA 8260B	n-Butylbenzene
116.080	101	EPA 8260B	sec-Butylbenzene
116.080	102	EPA 8260B	tert-Butylbenzene
116.080	103	EPA 8260B	2-Chlorotoluene
116.080	104	EPA 8260B	4-Chlorotoluene

As of 08/01/2005, this list supersedes all previous lists for this certificate number.
 Customers: Please verify the current accreditation standing with the State.

116.000	105	EPA 8260B	Isopropylbenzene
116.000	106	EPA 8260B	N-propylbenzene
116.000	107	EPA 8260B	Styrene
116.000	108	EPA 8260B	1,2,4-Trimethylbenzene
116.000	109	EPA 8260B	1,3,5-Trimethylbenzene
116.100	001	LUFT GC/MS	Total Petroleum Hydrocarbons - Gasoline
116.100	002	LUFT GC/MS	Benzene
116.100	003	LUFT GC/MS	Toluene
116.100	004	LUFT GC/MS	Xylenes
116.100	005	LUFT GC/MS	Methyl tert-butyl Ether (MTBE)
116.110	001	LUFT	Total Petroleum Hydrocarbons - Gasoline

117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.010	001	EPA 8010B	Diesel-range Total Petroleum Hydrocarbons
117.015	001	LUFT GC/MS	Diesel-range Total Petroleum Hydrocarbons
117.018	001	LUFT	Diesel-range Total Petroleum Hydrocarbons
117.017	001	EPA 418.1	TRPH Screening
117.110	001	EPA 8270C	Acenaphthene
117.110	002	EPA 8270C	Acenaphthylene
117.110	003	EPA 8270C	Acetophenone
117.110	004	EPA 8270C	2-Acetylaminofluorene
117.110	005	EPA 8270C	1-Acetyl-2-thiourea
117.110	006	EPA 8270C	4-Aminobiphenyl
117.110	007	EPA 8270C	Aniline
117.110	008	EPA 8270C	Anthracene
117.110	010	EPA 8270C	Benzidine
117.110	011	EPA 8270C	Benz(a)anthracene
117.110	012	EPA 8270C	Benz(b)fluoranthene
117.110	013	EPA 8270C	Benz(k)fluoranthene
117.110	014	EPA 8270C	Benz(a,h,i)perylene
117.110	015	EPA 8270C	Benz(a)pyrene
117.110	016	EPA 8270C	Benzoic Acid
117.110	018	EPA 8270C	Benzyl Alcohol
117.110	019	EPA 8270C	Benzyl Ethyl Phthalate
117.110	020	EPA 8270C	Bis(2-chloroethoxy)methane
117.110	021	EPA 8270C	Bis(2-chloroethyl) Ether
117.110	022	EPA 8270C	Bis(2-chloroisopropyl) Ether
117.110	023	EPA 8270C	Di(2-ethylhexyl) Phthalate
117.110	024	EPA 8270C	4-Bromophenyl Phenyl Ether
117.110	025	EPA 8270C	Carbazole
117.110	026	EPA 8270C	4-Chloroaniline
117.110	027	EPA 8270C	4-Chloro-3-methylphenol
117.110	028	EPA 8270C	2-Chloronaphthalene
117.110	030	EPA 8270C	2-Chlorophenol
117.110	031	EPA 8270C	4-Chlorophenyl Phenyl Ether
117.110	032	EPA 8270C	Chrysene
117.110	033	EPA 8270C	2-Cyclohexyl-4,6-dinitrophenol
117.110	034	EPA 8270C	2,4-Diaminotoluene
117.110	036	EPA 8270C	Dibenz(a,h)anthracene

As of 09/01/2005, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

117.110 037	EPA 8270C	Dibenzofuran
117.110 038	EPA 8270C	Dibenz(a,h)pyrene
117.110 039	EPA 8270C	1,2-Dichlorobenzene
117.110 040	EPA 8270C	1,3-Dichlorobenzene
117.110 041	EPA 8270C	1,4-Dichlorobenzene
117.110 042	EPA 8270C	2,3-Dichlorobenzidine
117.110 043	EPA 8270C	2,4-Dichlorophenol
117.110 044	EPA 8270C	2,6-Dichlorophenol
117.110 045	EPA 8270C	Diethyl Phthalate
117.110 050	EPA 8270C	p-Dimethylaniline
117.110 051	EPA 8270C	7,12-Dimethylbenzo(a)anthracene
117.110 052	EPA 8270C	3,6-Dimethylphenethylamine
117.110 053	EPA 8270C	2,4-Dimethylphenol
117.110 054	EPA 8270C	Dimethyl Phthalate
117.110 055	EPA 8270C	Di-n-butyl phthalate
117.110 056	EPA 8270C	Di-n-octyl phthalate
117.110 060	EPA 8270C	2,4-Dinitrophenol
117.110 061	EPA 8270C	2,4-Dinitrotoluene
117.110 062	EPA 8270C	2,6-Dinitrotoluene
117.110 063	EPA 8270C	Diphenylamine
117.110 064	EPA 8270C	1,2-Diphenylhydrazine
117.110 065	EPA 8270C	Ethyl Methanesulfonate
117.110 067	EPA 8270C	Fluoranthene
117.110 068	EPA 8270C	Fluorene
117.110 069	EPA 8270C	Hexachlorobenzene
117.110 070	EPA 8270C	Hexachlorobutadiene
117.110 071	EPA 8270C	Hexachlorocyclopentadiene
117.110 072	EPA 8270C	Hexachlorophene
117.110 073	EPA 8270C	Hexachloropropene
117.110 074	EPA 8270C	Indeno(1,2,3-c,d)pyrene
117.110 075	EPA 8270C	Isophthalene
117.110 076	EPA 8270C	Isosafrole
117.110 077	EPA 8270C	Maleic Anhydride
117.110 078	EPA 8270C	3-Methylcholanthrene
117.110 080	EPA 8270C	2-Methyl-4,6-dinitrophenol
117.110 082	EPA 8270C	Methyl Methanesulfonate
117.110 083	EPA 8270C	2-Methylnaphthalene
117.110 084	EPA 8270C	2-Methylphenol
117.110 085	EPA 8270C	3-Methylphenol
117.110 086	EPA 8270C	4-Methylphenol
117.110 087	EPA 8270C	Naphthalene
117.110 088	EPA 8270C	1,4-Naphthoquinone
117.110 089	EPA 8270C	1-Naphthylamine
117.110 090	EPA 8270C	2-Naphthylamine
117.110 092	EPA 8270C	2-Nitroaniline
117.110 093	EPA 8270C	3-Nitroaniline
117.110 094	EPA 8270C	4-Nitroaniline

EMAX LABORATORIES, INC.

Certificate No: 02116CA
 Renew Date: 08/31/2006

117.110 095	EPA 8270C	Nitrobenzene
117.110 096	EPA 8270C	2-Nitrophenol
117.110 097	EPA 8270C	4-Nitrophenol
117.110 098	EPA 8270C	N-nitrosodl-n-butylamine
117.110 099	EPA 8270C	N-nitrosodietylamine
117.110 100	EPA 8270C	N-nitrosodimethylamine
117.110 101	EPA 8270C	N-nitrosodl-n-propylamine
117.110 102	EPA 8270C	N-nitrosodiphenylamine
117.110 103	EPA 8270C	N-nitrosomethylmethylaniline
117.110 104	EPA 8270C	N-nitrosomorpholine
117.110 105	EPA 8270C	N-nitrosopiperidine
117.110 106	EPA 8270C	N-nitrosopyrrolidine
117.110 107	EPA 8270C	6-Nitro-o-toluidine
117.110 108	EPA 8270C	Pentachlorobenzene
117.110 109	EPA 8270C	Pentachloronitrobenzene
117.110 110	EPA 8270C	Pentachlorophenol
117.110 111	EPA 8270C	Phenacetin
117.110 112	EPA 8270C	Phenanthrene
117.110 113	EPA 8270C	Phenol
117.110 116	EPA 8270C	2-Picoline
117.110 119	EPA 8270C	Pyrene
117.110 120	EPA 8270C	Pyridine
117.110 122	EPA 8270C	Barbitol
117.110 124	EPA 8270C	1,2,4,5-Tetrachlorobenzene
117.110 125	EPA 8270C	2,3,4,6-Tetrachlorophenol
117.110 128	EPA 8270C	o-Toluidine
117.110 129	EPA 8270C	1,2,4-Trichlorobenzene
117.110 130	EPA 8270C	2,4,5-Trichlorophenol
117.110 131	EPA 8270C	2,4,6-Trichlorophenol
117.110 132	EPA 8270C	1,3,5-Trinitrobenzene
117.111 029	EPA 8270C	Dimethoate
117.111 026	EPA 8270C	Dinoseb
117.111 028	EPA 8270C	Fenphur
117.111 039	EPA 8270C	Isodrin
117.111 040	EPA 8270C	Kepone
117.111 054	EPA 8270C	Parathion Ethyl
117.111 055	EPA 8270C	Parathion Methyl
117.111 056	EPA 8270C	Phorate
117.111 059	EPA 8270C	Sulfotapp
117.111 091	EPA 8270C	O,O,O-Methyl Phosphorothioate
117.140 001	EPA 8310	Acenaphthene
117.140 002	EPA 8310	Acenaphthylene
117.140 003	EPA 8310	Anthracene
117.140 004	EPA 8310	Benzo(a)anthracene
117.140 005	EPA 8310	Benzo(a)pyrene
117.140 006	EPA 8310	Benzo(b)fluoranthene
117.140 007	EPA 8310	Benzo(k)fluoranthene
117.140 008	EPA 8310	Benzo(g,h,i)perylene

As of 08/01/2006, this list supersedes all previous lists for this certificate number.
 Customers: Please verify the current accreditation standing with this State.

EMAX LABORATORIES, INC.

Certificate No: 02116CA
Renew Date: 06/31/2006

117.140	009	EPA 8310	Chrysene
117.140	010	EPA 8310	Dibenz(a,h)anthracene
117.140	011	EPA 8310	Fluoranthene
117.140	012	EPA 8310	Fluorene
117.140	013	EPA 8310	Indeno(1,2,3-c,d)pyrene
117.140	014	EPA 8310	Naphthalene
117.140	015	EPA 8310	Phenanthrene
117.140	016	EPA 8310	Pyrene
117.170	001	EPA 8330	4-Amino-2,6-dinitrotoluene
117.170	002	EPA 8330	2-Amino-4,6-dinitrotoluene
117.170	003	EPA 8330	1,3-Dinitrobenzene
117.170	004	EPA 8330	2,4-Dinitrotoluene
117.170	005	EPA 8330	2,6-Dinitrotoluene
117.170	006	EPA 8330	Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)
117.170	007	EPA 8330	Methyl-2,4,6-trinitrophenylhydrazine
117.170	008	EPA 8330	Nitrobenzene
117.170	009	EPA 8330	2-Nitrotoluene
117.170	010	EPA 8330	3-Nitrotoluene
117.170	011	EPA 8330	4-Nitrotoluene
117.170	012	EPA 8330	Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazodine
117.170	013	EPA 8330	1,3,5-Trinitrobenzene
117.170	014	EPA 8330	2,4,6-Trinitrotoluene
117.180	001	EPA 8332	Nitroglycerine
117.210	001	EPA 8081A	Aldrin
117.210	002	EPA 8081A	α -BHC
117.210	003	EPA 8081A	β -BHC
117.210	004	EPA 8081A	γ -BHC
117.210	005	EPA 8081A	δ -BHC (Lindane)
117.210	007	EPA 8081A	α -Chlordane
117.210	008	EPA 8081A	γ -Chlordane
117.210	009	EPA 8081A	Chlordane (tech.)
117.210	010	EPA 8081A	Chlorobenzilate
117.210	011	EPA 8081A	Chloranil
117.210	012	EPA 8081A	Chlorothalonil
117.210	013	EPA 8081A	4,4'-DDO
117.210	014	EPA 8081A	4,4'-DDE
117.210	015	EPA 8081A	4,4'-DDT
117.210	016	EPA 8081A	Dieldrin
117.210	020	EPA 8081A	Dieldrin
117.210	021	EPA 8081A	Endosulfan I
117.210	022	EPA 8081A	Endosulfan II
117.210	023	EPA 8081A	Endosulfan Sulfate
117.210	024	EPA 8081A	Endrin
117.210	025	EPA 8081A	Endrin Aldehyde
117.210	026	EPA 8081A	Endrin Ketone
117.210	027	EPA 8081A	Heptachlor
117.210	028	EPA 8081A	Heptachlor Epoxide
117.210	029	EPA 8081A	Hexachlorobenzene

As of 06/01/2006, this list supersedes all previous lists for this certificate number.
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EMAX LABORATORIES, INC.

Certificate No: 02116CA
Renew Date: 08/31/2006

117.210	033	EPA 8061A	Methoxychlor
117.210	036	EPA 8061A	Tolaphene
117.220	001	EPA 8082	PCB-1016
117.220	002	EPA 8082	PCB-1221
117.220	003	EPA 8082	PCB-1232
117.220	004	EPA 8082	PCB-1242
117.220	005	EPA 8082	PCB-1248
117.220	006	EPA 8082	PCB-1254
117.220	007	EPA 8082	PCB-1260
117.220	009	EPA 8082	2-Chlorobiphenyl
117.220	009	EPA 8082	2,3-Dichlorobiphenyl
117.220	010	EPA 8082	2,2',5-Trichlorobiphenyl
117.220	011	EPA 8082	2,4',5-Trichlorobiphenyl
117.220	012	EPA 8082	2,2',3,5-Tetrachlorobiphenyl
117.220	013	EPA 8082	2,2',5,5'-Tetrachlorobiphenyl
117.220	014	EPA 8082	2,3',4,4'-Tetrachlorobiphenyl
117.220	015	EPA 8082	2,2',3,4,5-Pentachlorobiphenyl
117.220	016	EPA 8082	2,2',4,5,5'-Pentachlorobiphenyl
117.220	017	EPA 8082	2,3,3',4',5-Pentachlorobiphenyl
117.220	018	EPA 8082	2,2',3,4,4',5-Hexachlorobiphenyl
117.220	019	EPA 8082	2,2',3,4,5,5'-Hexachlorobiphenyl
117.220	020	EPA 8082	2,2',3,5,5',5'-Hexachlorobiphenyl
117.220	021	EPA 8082	2,2',4,4',5,5'-Hexachlorobiphenyl
117.220	022	EPA 8082	2,2',3,3',4,4',5-Heptachlorobiphenyl
117.220	023	EPA 8082	2,2',3,4,4',5,5'-Heptachlorobiphenyl
117.220	024	EPA 8082	2,2',3,4,4',5,5'-Heptachlorobiphenyl
117.220	025	EPA 8082	2,2',3,4',5,5',5'-Heptachlorobiphenyl
117.220	026	EPA 8082	2,2',3,3',4,4',5,5',5'-Nonachlorobiphenyl
117.240	001	EPA 8141A	Azinphos
117.240	002	EPA 8141A	Azinphos Methyl
117.240	003	EPA 8141A	Chlorfendiphos
117.240	005	EPA 8141A	Chlorpyrifos
117.240	006	EPA 8141A	Chlorpyrifos Methyl
117.240	007	EPA 8141A	Demeton-O
117.240	008	EPA 8141A	Demeton-S
117.240	009	EPA 8141A	Disulfoton
117.240	010	EPA 8141A	Dimethoate
117.240	012	EPA 8141A	EPN
117.240	013	EPA 8141A	Ethion
117.240	014	EPA 8141A	Fenphur
117.240	015	EPA 8141A	Malathion
117.240	016	EPA 8141A	Mevinphos
117.240	017	EPA 8141A	Naled
117.240	018	EPA 8141A	Permethrin Ethyl
117.240	019	EPA 8141A	Permethrin Methyl
117.240	020	EPA 8141A	Phorate
117.240	022	EPA 8141A	Resmeth
117.240	024	EPA 8141A	Sulfotep

As of 08/01/2006 this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

EMAX LABORATORIES, INC.

Certificate No: 02118CA
 Renew Date: 08/31/2008

117.240	026	EPA 8141A	Thionazin
117.250	001	EPA 8151A	2,4-D
117.250	002	EPA 8151A	2,4-DE
117.250	003	EPA 8151A	2,4,5-T
117.250	004	EPA 8151A	2,4,5-TP
117.250	006	EPA 8151A	Delapron
117.250	007	EPA 8151A	Dichlorprop
117.250	008	EPA 8151A	Dimoseb
117.250	009	EPA 8151A	MCPA
117.250	010	EPA 8151A	MCPP
117.250	011	EPA 8151A	4-Nitrophenol
117.250	012	EPA 8151A	Pentachlorophenol
117.250	013	EPA 8151A	Picloram
117.250	014	EPA 8151A	Dicamba
117.250	015	EPA 8151A	3,5-Dichlorobenzic Acid
117.250	016	EPA 8151A	Aclfluorfen
117.250	017	EPA 8151A	Bentazon
117.250	018	EPA 8151A	Chloramben
117.250	019	EPA 8151A	DCPA
120 - Physical Properties of Hazardous Waste			
120.010	001	EPA 1010	Ignitability
120.040	001	Section 7.3 SW-846	Reactive Cyanide
120.050	001	Section 7.3 SW-846	Reactive Sulfide
120.070	001	EPA 8040B	Corrosivity - pH Determination
120.080	001	EPA 8045C	Corrosivity - pH Determination



**STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
NELAP - RECOGNIZED**

ACCREDITATION

Is hereby granted to

STL - LOS ANGELES

1721 SOUTH GRAND AVENUE

SANTA ANA, CA 92705-4808


Scope of accreditation is limited to the
"NELAP Fields of Accreditation"
which accompanies this Certificate.

Continued accredited status depends on successful
ongoing participation in the program.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No: **01118CA**
Expiration Date: **01/31/2006**
Effective Date: **01/31/2005**

Berkeley, California
subject to forfeiture or revocation.


George C. Kulasingam, Ph.D.
Program Chief
Environmental Laboratory Accreditation Program



CALIFORNIA DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM - NELAP RECOGNIZED
Fields of Accreditation



STL - LOS ANGELES

Lab Phone (714) 258-8610

1721 SOUTH GRAND AVENUE
SANTA ANA, CA 92705-4808

Certificate No: 01118CA Renew Date: 1/31/2006

INTERIM

102 - Inorganic Chemistry of Drinking Water

102.020	001	EPA 180.1	Turbidity
102.022	001	SM2130B	Turbidity
102.080	001	EPA 300.0	Bromide
102.030	003	EPA 300.0	Chloride
102.030	006	EPA 300.0	Nitrate
102.030	007	EPA 300.0	Nitrite
102.030	010	EPA 300.0	Sulfate
102.100	001	SM2320B	Alkalinity
102.120	001	SM2340B	Hardness
102.130	001	SM2510B	Conductivity
102.140	001	SM2540C	Total Dissolved Solids
102.145	001	EPA 180.1	Total Dissolved Solids
102.160	001	SM4500-CN E	Cyanide, Total
102.192	001	SM4500-CN G	Cyanide, amenable
102.200	001	SM4500-F C	Fluoride
102.212	001	EPA 150.1	pH
102.260	001	SM5310B	Total Organic Carbon

103 - Toxic Chemical Elements of Drinking Water

103.130	003	EPA 200.7	Barium
103.130	007	EPA 200.7	Chromium
103.130	008	EPA 200.7	Copper
103.130	009	EPA 200.7	Iron
103.130	011	EPA 200.7	Manganese
103.130	012	EPA 200.7	Nickel
103.130	015	EPA 200.7	Silver
103.130	017	EPA 200.7	Zinc
103.180	001	EPA 245.1	Mercury

104 - Volatile Organic Chemistry of Drinking Water

104.030	001	EPA 504.1	1,2-Dibromoethane
104.040	001	EPA 524.2	Benzene
104.040	002	EPA 524.2	Bromobenzene
104.040	003	EPA 524.2	Bromochloromethane
104.040	006	EPA 524.2	Bromomethane
104.040	007	EPA 524.2	n-Butylbenzene
104.040	008	EPA 524.2	sec-Butylbenzene
104.040	009	EPA 524.2	tert-Butylbenzene
104.040	010	EPA 524.2	Carbon Tetrachloride
104.040	011	EPA 524.2	Chlorobenzene
104.040	012	EPA 524.2	Chloroethane

As of 1/14/2005, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

STL - LOS ANGELES

Certificate No: 01118CA
Renew Date: 1/31/2006

104.040	014	EPA 524.2	Chloromethane
104.040	015	EPA 524.2	2-Chlorotoluene
104.040	016	EPA 524.2	4-Chlorotoluene
104.040	018	EPA 524.2	Dibromomethane
104.040	019	EPA 524.2	1,3-Dichlorobenzene
104.040	020	EPA 524.2	1,2-Dichlorobenzene
104.040	021	EPA 524.2	1,4-Dichlorobenzene
104.040	022	EPA 524.2	Dichlorodifluoromethane
104.040	023	EPA 524.2	1,1-Dichloroethane
104.040	024	EPA 524.2	1,2-Dichloroethane
104.040	025	EPA 524.2	1,1-Dichloroethane
104.040	026	EPA 524.2	cis-1,2-Dichloroethane
104.040	027	EPA 524.2	trans-1,2-Dichloroethane
104.040	028	EPA 524.2	Dichloromethane
104.040	029	EPA 524.2	1,2-Dichloropropane
104.040	030	EPA 524.2	1,3-Dichloropropane
104.040	031	EPA 524.2	2,2-Dichloropropane
104.040	032	EPA 524.2	1,1-Dichloropropane
104.040	033	EPA 524.2	cis-1,3-Dichloropropene
104.040	034	EPA 524.2	trans-1,3-Dichloropropene
104.040	035	EPA 524.2	Ethylbenzene
104.040	036	EPA 524.2	Hexachlorobutadiene
104.040	037	EPA 524.2	Isopropylbenzene
104.040	038	EPA 524.2	4-Isopropyltoluene
104.040	039	EPA 524.2	Naphthalene
104.040	041	EPA 524.2	N-propylbenzene
104.040	042	EPA 524.2	Styrene
104.040	043	EPA 524.2	1,1,1,2-Tetrachloroethane
104.040	044	EPA 524.2	1,1,2,2-Tetrachloroethane
104.040	045	EPA 524.2	Tetrachloroethane
104.040	046	EPA 524.2	Toluene
104.040	047	EPA 524.2	1,2,3-Trichlorobenzene
104.040	048	EPA 524.2	1,2,4-Trichlorobenzene
104.040	049	EPA 524.2	1,1,1-Trichloroethane
104.040	050	EPA 524.2	1,1,2-Trichloroethane
104.040	051	EPA 524.2	Trichloroethane
104.040	052	EPA 524.2	Trichlorofluoromethane
104.040	053	EPA 524.2	1,2,3-Trichloropropane
104.040	054	EPA 524.2	1,2,4-Trimethylbenzene
104.040	055	EPA 524.2	1,3,5-Trimethylbenzene
104.040	056	EPA 524.2	Vinyl Chloride
104.040	057	EPA 524.2	Xylenes, Total
104.045	001	EPA 524.2	Bromodichloromethane
104.045	002	EPA 524.2	Bromoform
104.045	003	EPA 524.2	Chloroform
104.045	004	EPA 524.2	Dibromochloromethane
104.045	005	EPA 524.2	Trihalomethanes
104.050	002	EPA 524.2	Methyl tert-butyl Ether (MTBE)

As of 1/14/2005, this list supersedes all previous lists for this certificate number.
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STL - LOS ANGELES

Certificate No.
Renew Date

104.050	004	EPA 524.2	tert-Amyl Methyl Ether (TAME)
104.050	005	EPA 524.2	Ethyl tert-butyl Ether (ETBE)

108 - Inorganic Chemistry of Wastewater

108.020	001	EPA 120.1	Conductivity
108.050	001	EPA 150.1	pH
108.060	001	EPA 160.1	Residue, Filterable
108.070	001	EPA 160.2	Residue, Non-filterable
108.080	001	EPA 160.3	Residue, Total
108.100	001	EPA 160.5	Residue, Settlesable
108.110	001	EPA 180.1	Turbidity
108.112	001	EPA 200.7	Boron
108.112	002	EPA 200.7	Calcium
108.112	003	EPA 200.7	Hardness (calc.)
108.112	004	EPA 200.7	Magnesium
108.112	005	EPA 200.7	Potassium
108.112	006	EPA 200.7	Silica
108.112	007	EPA 200.7	Sodium
108.120	001	EPA 300.0	Bromide
108.120	002	EPA 300.0	Chloride
108.120	004	EPA 300.0	Nitrate
108.120	005	EPA 300.0	Nitrite
108.120	006	EPA 300.0	Nitrate-nitrite, Total
108.120	008	EPA 300.0	Sulfate
108.140	001	EPA 310.1	Alkalinity
108.180	001	EPA 335.1	Cyanide, amenable
108.181	001	EPA 335.2	Cyanide, Total
108.191	001	EPA 340.2	Fluoride
108.202	001	EPA 350.3	Ammonia
108.250	001	EPA 350.1	Dissolved Oxygen
108.264	001	EPA 355.3	Phosphate, Ortho
108.265	001	EPA 355.3	Phosphorus, Total
108.280	001	EPA 375.1	Sulfide
108.281	001	EPA 375.2	Sulfide
108.310	001	EPA 405.1	Biochemical Oxygen Demand
108.323	001	EPA 410.4	Chemical Oxygen Demand
108.340	001	EPA 415.1	Total Organic Carbon
108.360	001	EPA 1664	Oil and Grease
108.360	001	SM2130B	Turbidity
108.410	001	SM2320B	Alkalinity
108.420	001	SM2340B	Hardness (calc.)
108.430	001	SM2510B	Conductivity
108.440	001	SM2540B	Residue, Total
108.441	001	SM2540C	Residue, Filterable
108.442	001	SM2540D	Residue, Non-filterable
108.443	001	SM2540F	Residue, Settlesable
108.472	001	SM4500-CN E	Cyanide, Total
108.473	001	SM4500-CN G	Cyanide, amenable
108.480	001	SM4500-F C	Fluoride

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STL - LOS ANGELES

Certificate No: 01118CA
 Renew Date: 1/31/2006

108.504	001	SM4500-NH3 F	Ammonia
108.580	001	SM4500-S= D	Sulfide
108.581	001	SM4500-S= E (18h)	Sulfide
108.590	001	SM5210B	Biochemical Oxygen Demand
108.602	001	SM5220D	Chemical Oxygen Demand

109 - Toxic Chemical Elements of Wastewater

109.010	001	EPA 200.7	Aluminum
109.010	002	EPA 200.7	Antimony
109.010	003	EPA 200.7	Arsenic
109.010	004	EPA 200.7	Barium
109.010	005	EPA 200.7	Beryllium
109.010	007	EPA 200.7	Cadmium
109.010	008	EPA 200.7	Chromium
109.010	010	EPA 200.7	Cobalt
109.010	011	EPA 200.7	Copper
109.010	012	EPA 200.7	Iron
109.010	013	EPA 200.7	Lead
109.010	015	EPA 200.7	Manganese
109.010	016	EPA 200.7	Molybdenum
109.010	017	EPA 200.7	Nickel
109.010	019	EPA 200.7	Selenium
109.010	021	EPA 200.7	Silver
109.010	023	EPA 200.7	Thallium
109.010	024	EPA 200.7	Tin
109.010	026	EPA 200.7	Vanadium
109.010	027	EPA 200.7	Zinc
109.104	001	EPA 218.6	Chromium (VI)
109.190	001	EPA 245.1	Mercury

110 - Volatile Organic Chemistry of Wastewater

110.040	001	EPA 824	Benzene
110.040	005	EPA 824	Carbon Tetrachloride
110.040	008	EPA 824	Chlorobenzene
110.040	007	EPA 824	Chloroethane
110.040	009	EPA 824	Chloroform
110.040	010	EPA 824	Chloromethane
110.040	015	EPA 824	1,1-Dichloroethane
110.040	016	EPA 824	1,2-Dichloroethane
110.040	017	EPA 824	1,1-Dichloroethane
110.040	018	EPA 824	trans-1,2-Dichloroethane
110.040	019	EPA 824	1,2-Dichloropropane
110.040	020	EPA 824	cis-1,3-Dichloropropene
110.040	021	EPA 824	trans-1,3-Dichloropropene
110.040	022	EPA 824	Ethylbenzene
110.040	023	EPA 824	Methylene Chloride
110.040	024	EPA 824	1,1,2,2-Tetrachloroethane
110.040	025	EPA 824	Tetrachloroethane
110.040	026	EPA 824	Toluene
110.040	027	EPA 824	1,1,1-Trichloroethane

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110.040	028	EPA 824	1,1,2-Trichloroethane
110.040	029	EPA 824	Trichloroethene
110.040	031	EPA 824	Vinyl Chloride
111 - Semi-volatile Organic Chemistry of Wastewater			
111.100	001	EPA 825	Acenaphthene
111.100	002	EPA 825	Acenaphthylene
111.100	005	EPA 825	Benzo(a)anthracene
111.100	006	EPA 825	Benzo(b)fluoranthene
111.100	007	EPA 825	Benzo(k)fluoranthene
111.100	009	EPA 825	Benzo(a)pyrene
111.100	014	EPA 825	Di(2-ethylhexyl) Phthalate
111.100	020	EPA 825	Chrysene
111.100	028	EPA 825	2,4-Dimethylphenol
111.100	032	EPA 825	2,4-Dinitrophenol
111.100	037	EPA 825	Hexachlorobenzene
111.100	038	EPA 825	Hexachlorobutadiene
111.100	040	EPA 825	Hexachloroethane
111.100	043	EPA 825	2-Methyl-4,6-dinitrophenol
111.100	048	EPA 825	2-Nitrophenol
111.100	047	EPA 825	4-Nitrophenol
111.100	053	EPA 825	Phenol
114 - Inorganic Chemistry of Hazardous Waste			
114.010	001	EPA 8010B	Antimony
114.010	002	EPA 8010B	Arsenic
114.010	003	EPA 8010B	Barium
114.010	004	EPA 8010B	Beryllium
114.010	005	EPA 8010B	Cadmium
114.010	006	EPA 8010B	Chromium
114.010	007	EPA 8010B	Cobalt
114.010	008	EPA 8010B	Copper
114.010	009	EPA 8010B	Lead
114.010	010	EPA 8010B	Molybdenum
114.010	011	EPA 8010B	Nickel
114.010	012	EPA 8010B	Selenium
114.010	013	EPA 8010B	Silver
114.010	014	EPA 8010B	Thallium
114.010	015	EPA 8010B	Vanadium
114.010	016	EPA 8010B	Zinc
114.103	001	EPA 7188A	Chromium (VI)
114.106	001	EPA 7189	Chromium (VI)
114.140	001	EPA 7470A	Mercury
114.141	001	EPA 7471A	Mercury
114.222	001	EPA 9014	Cyanide
114.240	001	EPA 9040	pH
114.241	001	EPA 9045	pH
118 - Extraction Test of Hazardous Waste			
118.020	001	EPA 1311	Toxicity Characteristic Leaching Procedure (TCLP)

116.030	001	CCR Chapter 11, Article 5, Appendix II	Waste Extraction Test (WET)
116.040	001	EPA 1312	Synthetic Precipitation Leaching Procedure (SPLP)
116 - Volatile Organic Chemistry of Hazardous Waste			
116.030	001	EPA 8015B	Gasoline-range Organics
116.040	002	EPA 8021B	Benzene
116.040	039	EPA 8021B	Ethylbenzene
116.040	041	EPA 8021B	Methyl tert-butyl Ether (MTBE)
116.040	047	EPA 8021B	Toluene
116.040	058	EPA 8021B	Xylenes, Total
116.080	001	EPA 8260B	Acetone
116.080	003	EPA 8260B	Acrolein
116.080	004	EPA 8260B	Acrylonitrile
116.080	007	EPA 8260B	Benzene
116.080	010	EPA 8260B	Bromochloromethane
116.080	011	EPA 8260B	Bromodichloromethane
116.080	012	EPA 8260B	Bromofom
116.080	013	EPA 8260B	Bromomethane
116.080	015	EPA 8260B	Carbon Disulfide
116.080	016	EPA 8260B	Carbon Tetrachloride
116.080	018	EPA 8260B	Chlorobenzene
116.080	019	EPA 8260B	Chloroethane
116.080	020	EPA 8260B	2-Chloroethyl Vinyl Ether
116.080	021	EPA 8260B	Chloroform
116.080	022	EPA 8260B	Chloromethane
116.080	026	EPA 8260B	Dibromochloromethane
116.080	027	EPA 8260B	Dibromochloropropane
116.080	028	EPA 8260B	1,2-Dibromoethane
116.080	030	EPA 8260B	Dibromomethane
116.080	031	EPA 8260B	1,2-Dichlorobenzene
116.080	032	EPA 8260B	1,3-Dichlorobenzene
116.080	033	EPA 8260B	1,4-Dichlorobenzene
116.080	036	EPA 8260B	Dichlorodifluoromethane
116.080	037	EPA 8260B	1,1-Dichloroethane
116.080	038	EPA 8260B	1,2-Dichloroethane
116.080	039	EPA 8260B	1,1-Dichloroethane
116.080	040	EPA 8260B	trans-1,2-Dichloroethane
116.080	041	EPA 8260B	cis-1,2-Dichloroethane
116.080	042	EPA 8260B	1,2-Dichloropropane
116.080	043	EPA 8260B	1,3-Dichloropropane
116.080	044	EPA 8260B	2,2-Dichloropropane
116.080	045	EPA 8260B	1,1-Dichloropropane
116.080	046	EPA 8260B	cis-1,3-Dichloropropane
116.080	047	EPA 8260B	trans-1,3-Dichloropropane
116.080	053	EPA 8260B	Ethylbenzene
116.080	056	EPA 8260B	Hexachlorobutadiene
116.080	058	EPA 8260B	2-Hexanone (MBK)
116.080	059	EPA 8260B	Iodomethane
116.080	064	EPA 8260B	Methyl tert-butyl Ether (MTBE)

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STL - LOS ANGELES

 Certificate No: 01118CA
 Renew Date: 1/31/2008

116.080	085	EPA 8260B	Methylene Chloride
116.080	086	EPA 8260B	Methyl Ethyl Ketone
116.080	088	EPA 8260B	4-Methyl-2-pentanone (MIBK)
116.080	081	EPA 8260B	1,1,1,2-Tetrachloroethane
116.080	082	EPA 8260B	1,1,2,2-Tetrachloroethane
116.080	083	EPA 8260B	Tetrachloroethane
116.080	084	EPA 8260B	Toluene
116.080	086	EPA 8260B	1,2,3-Trichlorobenzene
116.080	087	EPA 8260B	1,2,4-Trichlorobenzene
116.080	088	EPA 8260B	1,1,1-Trichloroethane
116.080	089	EPA 8260B	1,1,2-Trichloroethane
116.080	090	EPA 8260B	Trichloroethene
116.080	091	EPA 8260B	Trichlorofluoromethane
116.080	092	EPA 8260B	1,2,3-Trichloropropane
116.080	093	EPA 8260B	Vinyl Acetate
116.080	094	EPA 8260B	Vinyl Chloride
116.080	095	EPA 8260B	Xylenes, Total
116.080	096	EPA 8260B	tert-Amyl Methyl Ether (TAME)
116.080	097	EPA 8260B	tert-Butyl Alcohol (TBA)
116.080	098	EPA 8260B	Ethyl tert-butyl Ether (ETBE)
116.080	099	EPA 8260B	Bromobenzene
116.080	100	EPA 8260B	n-Butylbenzene
116.080	101	EPA 8260B	sec-Butylbenzene
116.080	102	EPA 8260B	tert-Butylbenzene
116.080	103	EPA 8260B	2-Chlorotoluene
116.080	104	EPA 8260B	4-Chlorotoluene
116.080	105	EPA 8260B	Isopropylbenzene
116.080	106	EPA 8260B	N-propylbenzene
116.080	107	EPA 8260B	Styrene
116.080	108	EPA 8260B	1,2,4-Trimethylbenzene
116.080	109	EPA 8260B	1,3,5-Trimethylbenzene
116.100	001	LUFT GC/MS	Total Petroleum Hydrocarbons - Gasoline
117 - Semi-volatile Organic Chemistry of Hazardous Waste			
117.010	001	EPA 8015B	Diesel-range Total Petroleum Hydrocarbons
117.110	001	EPA 8270C	Acenaphthene
117.110	002	EPA 8270C	Acenaphthylene
117.110	007	EPA 8270C	Aniline
117.110	008	EPA 8270C	Anthracene
117.110	010	EPA 8270C	Benzidine
117.110	011	EPA 8270C	Benzo(a)anthracene
117.110	012	EPA 8270C	Benzo(b)fluoranthene
117.110	013	EPA 8270C	Benzo(k)fluoranthene
117.110	014	EPA 8270C	Benzo(g,h,i)perylene
117.110	015	EPA 8270C	Benzo(a)pyrene
117.110	016	EPA 8270C	Benzoic Acid
117.110	018	EPA 8270C	Benzyl Alcohol
117.110	019	EPA 8270C	Benzyl Butyl Phthalate
117.110	020	EPA 8270C	Bis(2-chloroethoxy)methane

As of 1/14/2005, this list supersedes all previous lists for this certificate number.
 Customers: Please verify the current accreditation standing with the State.

STL - LOS ANGELES

Certificate No: 01118CA
Renew Date: 1/31/2008

117.110	021	EPA 8270C	Bis(2-chloroethyl) Ether
117.110	022	EPA 8270C	Bis(2-chloroisopropyl) Ether
117.110	023	EPA 8270C	Di(2-ethylhexyl) Phthalate
117.110	024	EPA 8270C	4-Bromophenyl Phenyl Ether
117.110	025	EPA 8270C	Carbazole
117.110	026	EPA 8270C	4-Chloroaniline
117.110	027	EPA 8270C	4-Chloro-3-methylphenol
117.110	029	EPA 8270C	2-Chloronaphthalene
117.110	030	EPA 8270C	2-Chlorophenol
117.110	031	EPA 8270C	4-Chlorophenyl Phenyl Ether
117.110	032	EPA 8270C	Chrysene
117.110	036	EPA 8270C	Dibenz(a,h)anthracene
117.110	037	EPA 8270C	Dibenzofuran
117.110	039	EPA 8270C	1,2-Dichlorobenzene
117.110	040	EPA 8270C	1,3-Dichlorobenzene
117.110	041	EPA 8270C	1,4-Dichlorobenzene
117.110	042	EPA 8270C	3,3'-Dichlorobenzidine
117.110	043	EPA 8270C	2,4-Dichlorophenol
117.110	045	EPA 8270C	Diethyl Phthalate
117.110	053	EPA 8270C	2,4-Dimethylphenol
117.110	054	EPA 8270C	Dimethyl Phthalate
117.110	055	EPA 8270C	Di-n-butyl phthalate
117.110	056	EPA 8270C	Di-n-octyl phthalate
117.110	060	EPA 8270C	2,4-Dinitrophenol
117.110	061	EPA 8270C	2,4-Dinitrotoluene
117.110	062	EPA 8270C	2,6-Dinitrotoluene
117.110	064	EPA 8270C	1,2-Diphenylhydrazine
117.110	067	EPA 8270C	Fluoranthene
117.110	068	EPA 8270C	Fluorene
117.110	069	EPA 8270C	Hexachlorobenzene
117.110	070	EPA 8270C	Hexachlorobutadiene
117.110	071	EPA 8270C	Hexachlorocyclopentadiene
117.110	072	EPA 8270C	Hexachloroethane
117.110	073	EPA 8270C	Indeno(1,2,3-c,d)pyrene
117.110	075	EPA 8270C	Isophorone
117.110	080	EPA 8270C	2-Methyl-4,6-dinitrophenol
117.110	083	EPA 8270C	2-Methylnaphthalene
117.110	084	EPA 8270C	2-Methylphenol
117.110	085	EPA 8270C	3-Methylphenol
117.110	086	EPA 8270C	4-Methylphenol
117.110	087	EPA 8270C	Naphthalene
117.110	082	EPA 8270C	2-Nitroaniline
117.110	093	EPA 8270C	3-Nitroaniline
117.110	094	EPA 8270C	4-Nitroaniline
117.110	095	EPA 8270C	Nitrobenzene
117.110	096	EPA 8270C	2-Nitrophenol
117.110	097	EPA 8270C	4-Nitrophenol
117.110	100	EPA 8270C	N-Nitrosodimethylamine

As of 1/14/2005, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

Page 8 of 10

STL - LOS ANGELES

Certificate No: 01118CA
Renew Date: 1/31/2008

117.110	101	EPA 8270C	N-nitrosodi-n-propylamine
117.110	102	EPA 8270C	N-nitrosodiphenylamine
117.110	110	EPA 8270C	Pentachlorophenol
117.110	112	EPA 8270C	Phenanthrene
117.110	113	EPA 8270C	Phenol
117.110	119	EPA 8270C	Pyrene
117.110	120	EPA 8270C	Pyridine
117.110	129	EPA 8270C	1,2,4-Trichlorobenzene
117.110	130	EPA 8270C	2,4,5-Trichlorophenol
117.110	131	EPA 8270C	2,4,6-Trichlorophenol
117.140	001	EPA 8310	Acenaphthene
117.140	002	EPA 8310	Acenaphthylene
117.140	003	EPA 8310	Anthracene
117.140	004	EPA 8310	Benzo(a)anthracene
117.140	005	EPA 8310	Benzo(a)pyrene
117.140	006	EPA 8310	Benzo(b)fluoranthene
117.140	007	EPA 8310	Benzo(k)fluoranthene
117.140	008	EPA 8310	Benzo(g,h,i)perylene
117.140	009	EPA 8310	Chrysene
117.140	010	EPA 8310	Dibenz(a,h)anthracene
117.140	011	EPA 8310	Fluoranthene
117.140	012	EPA 8310	Fluorene
117.140	013	EPA 8310	Indeno(1,2,3-c,d)pyrene
117.140	014	EPA 8310	Naphthalene
117.140	015	EPA 8310	Phenanthrene
117.140	016	EPA 8310	Pyrene
117.210	001	EPA 8081A	Aldrin
117.210	002	EPA 8081A	α-BHC
117.210	003	EPA 8081A	β-BHC
117.210	004	EPA 8081A	γ-BHC
117.210	005	EPA 8081A	γ-BHC (Lindane)
117.210	007	EPA 8081A	α-Chlordane
117.210	008	EPA 8081A	γ-Chlordane
117.210	009	EPA 8081A	Chlordane (tech.)
117.210	013	EPA 8081A	4,4'-DDD
117.210	014	EPA 8081A	4,4'-DDE
117.210	015	EPA 8081A	4,4'-DDT
117.210	020	EPA 8081A	Dieldrin
117.210	021	EPA 8081A	Endosulfan I
117.210	022	EPA 8081A	Endosulfan II
117.210	023	EPA 8081A	Endosulfan Sulfate
117.210	024	EPA 8081A	Endrin
117.210	025	EPA 8081A	Endrin Aldehyde
117.210	026	EPA 8081A	Endrin Ketone
117.210	027	EPA 8081A	Heptachlor
117.210	028	EPA 8081A	Heptachlor Epoxide
117.210	033	EPA 8081A	Methoxychlor
117.210	039	EPA 8081A	Toxaphene

As of 1/14/2005, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

STL - LOS ANGELES

Certificate No: 01118CA
Renew Date: 1/31/2006

117.220	001	EPA 8082	PCB-1018
117.220	002	EPA 8082	PCB-1221
117.220	003	EPA 8082	PCB-1232
117.220	004	EPA 8082	PCB-1242
117.220	005	EPA 8082	PCB-1248
117.220	006	EPA 8082	PCB-1254
117.220	007	EPA 8082	PCB-1260
120 - Physical Properties of Hazardous Waste			
120.010	001	EPA 1010	Ignitability
120.070	001	EPA 9040B	Corrosivity - pH Determination
120.080	001	EPA 9045C	Corrosivity - pH Determination

As of 1/14/2005, this list supersedes all previous lists for this certificate number.
Customer: Please verify the current accreditation standing with the State.

Page 10 of 10



California
Department of
Health Services



STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

ENVIRONMENTAL LABORATORY CERTIFICATION

Is hereby granted to

STL LOS ANGELES

1721 SOUTH GRAND AVENUE

SANTA ANA, CA 92705-4808


Scope of certification is limited to the
"List of Approved Fields of Testing and Analytes"
which accompanies this Certificate.

Continued certification status depends on successful completion of site visit,
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of
Section 100825, et seq. of the Health and Safety Code.

Certificate No: 2092
Expiration Date: 10/31/2005
Effective Date: 10/01/2003

Berkeley, California
subject to forfeiture or revocation.


George C. Kulasingam, Ph.D.
Program Chief
Environmental Laboratory Accreditation Program

**CALIFORNIA DEPARTMENT OF HEALTH SERVICES
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM
Accredited Fields of Testing**

STL - LOS ANGELES

Lab Phone (714) 256-8810

**1721 SOUTH GRAND AVENUE
SANTA ANA, CA 92705-4808**

Certificate No: 2083 Renew Date: 10/31/2006

Field of Testing: 102 - Inorganic Chemistry of Drinking Water

102.030	001	Bromide	EPA 300.0
102.030	006	Fluoride	EPA 300.0
102.045	001	Perchlorate	EPA 314.0
102.130	001	Conductivity	SM2510B
102.140	001	Total Dissolved Solids	SM2540C
102.190	001	Cyanide, Total	SM4500-CN E
102.193	001	Cyanide, arsenable	SM4500-CN G
102.200	001	Fluoride	SM4500-F C
102.520	001	Calcium	EPA 200.7
102.520	002	Magnesium	EPA 200.7
102.520	003	Potassium	EPA 200.7
102.520	005	Sodium	EPA 200.7
102.520	006	Hardness (calc.)	EPA 200.7

Field of Testing: 103 - Toxic Chemical Elements of Drinking Water

103.130	018	Boron	EPA 200.7
103.310	001	Chromium (VI)	EPA 218.8

Field of Testing: 104 - Volatile Organic Chemistry of Drinking Water

104.040	001	1,2-Dichloroethane	EPA 804.1
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Field of Testing: 105 - Inorganic Chemistry of Wastewater

105.020	001	Conductivity	EPA 120.1
105.020	001	pH	EPA 120.1
105.030	001	Residue, Filtrate	EPA 120.1
105.070	001	Residue, Non-Filtrate	EPA 120.2
105.090	001	Residue, Total	EPA 120.3
105.100	001	Residue, Soluble	EPA 120.5
105.110	001	Turbidity	EPA 120.1
105.112	001	Boron	EPA 200.7
105.112	002	Calcium	EPA 200.7
105.112	003	Hardness (calc.)	EPA 200.7
105.112	004	Magnesium	EPA 200.7
105.112	005	Potassium	EPA 200.7
105.112	007	Sodium	EPA 200.7
105.120	001	Bromide	EPA 300.0
105.120	006	Nitrate	EPA 300.0
105.190	001	Cyanide, arsenable	EPA 335.1
105.191	001	Cyanide, Total	EPA 335.2
105.191	001	Fluoride	EPA 340.2
105.202	001	Ammonia	EPA 350.3
105.250	001	Dissolved Oxygen	EPA 350.1
105.264	001	Phosphate, Ortho	EPA 355.3
105.265	001	Phosphorus, Total	EPA 355.3
105.290	001	Sulfide	EPA 370.1
105.291	001	Sulfate	EPA 370.2

As of 07/27/2004, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation listing with the State.

STL - LOS ANGELES

Certificate No: 2082
Renew Date: 10/31/2005

108.310	001	Biochemical Oxygen Demand	EPA 405.1
108.320	001	Chemical Oxygen Demand	EPA 410.4
108.360	001	Oil and Grease	EPA 1004
108.360	001	Turbidity	SM2130B
108.430	001	Hardness (calc.)	SM2340B
108.430	001	Conductivity	SM2510B
108.440	001	Residue, Total	SM2540B
108.441	001	Residue, Filterable	SM2540C
108.442	001	Residue, Non-filterable	SM2540D
108.443	001	Residue, Soluble	SM2540F
108.472	001	Cyanide, Total	SM4500-CN E
108.473	001	Cyanide, amenable	SM4500-CN G
108.480	001	Fluoride	SM4500-F C
108.504	001	Ammonia	SM4500-NH3 F
108.590	001	Sulfide	SM4500-S- D
108.590	001	Biochemical Oxygen Demand	SM210B
108.590	001	Chemical Oxygen Demand	SM2200

Field of Testing: 109 - Toxic Chemical Elements of Wastewater

109.010	001	Aluminum	EPA 200.7
109.010	002	Antimony	EPA 200.7
109.010	003	Arsenic	EPA 200.7
109.010	004	Barium	EPA 200.7
109.010	005	Beryllium	EPA 200.7
109.010	007	Cadmium	EPA 200.7
109.010	009	Chromium	EPA 200.7
109.010	010	Cobalt	EPA 200.7
109.010	011	Copper	EPA 200.7
109.010	012	Iron	EPA 200.7
109.010	013	Lead	EPA 200.7
109.010	015	Manganese	EPA 200.7
109.010	016	Molybdenum	EPA 200.7
109.010	017	Nickel	EPA 200.7
109.010	019	Selenium	EPA 200.7
109.010	021	Silver	EPA 200.7
109.010	023	Thallium	EPA 200.7
109.010	024	Tin	EPA 200.7
109.010	025	Vanadium	EPA 200.7
109.010	027	Zinc	EPA 200.7
109.104	001	Chromium (VI)	EPA 215.6
109.180	001	Mercury	EPA 245.1

Field of Testing: 110 - Volatile Organic Chemistry of Wastewater

110.040	040	Halogenated Hydrocarbons	EPA 824
110.040	041	Aromatic Compounds	EPA 824
110.040	042	Oxygenates	EPA 824
110.040	043	Other Volatile Organics	EPA 824

Field of Testing: 111 - Semi-volatile Organic Chemistry of Wastewater

111.101	032	Polynuclear Aromatic Hydrocarbons	EPA 825
111.101	034	Phthalates	EPA 825
111.101	036	Other Extractables	EPA 825

Field of Testing: 114 - Inorganic Chemistry of Heterogeneous Waste

114.100	001	Chromium (VI)	EPA 7190A
114.200	001	Fluoride	EPA 905B

As of 07/27/2004, this list supersedes all previous lists for this certificate number.
Customers: Please verify the current accreditation standing with the State.

STL - LOS ANGELES

Certificate No: 2002
Review Date: 10/31/2005

Field of Testing: 116 - Volatile Organic Chemistry of Hazardous Waste

116.000	000	Volatile Organic Compounds	EPA 8260B
116.000	100	Organics	EPA 8260B

Field of Testing: 117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.110	000	Extractable Organics	EPA 8270C
117.210	000	Organochlorine Pesticides	EPA 8081A

Attachment 4
Summary of Construction Quality Control Submittals

SUBMITTAL REGISTER

TITLE AND LOCATION		CONTRACTOR										CONTRACT NUMBER					
Remediation Design, Site 2, Former MCAS EI Toro		ERRG										N62711-01-D-6016					
TRANSMITTAL NO	SPEC	DESCRIPTION OF ITEM SUBMITTED	PARRAGRAPHS	CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION	APPROVING AUTHORITY				REMARKS				
					SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE OF ACTION	DATE OF ACTION		DATE OF ACTION			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
01010	SD-18 Records																
		Remedial Action Work Plan	1.1.2.1			23-Sep											
		Environmental Protection Plan	1.1.2.2			23-Sep											
		Environmental Conditions Report	1.1.2.3			23-Sep											
		Site Health and Safety Plan	1.1.2.4			23-Sep				17-Oct	17-Oct						
		Construction Quality Control (CQC) Plan	1.1.2.5			23-Sep											
		Contract Management System (CMS) Reports	1.1.3.1														
		CQC Meeting Minutes	1.1.3.1														
		CQC Control Report/ Contractor Production Reports	1.1.3.1														
		CQC Testing Plan and Log	1.1.3.1														
		CQC Test Results Summary Report	1.1.3.2														
		Rework Items List	1.1.3.1														
		Remediation Verification Report															
		Drawings & Records of Material	1.1.3.2														
		Permits	3.3.2														Well Permits
		Dig Alert															
01300	SD-18 Records - Submittal Register																
02052	SD-02 Manufacturers Catalog Data		1.1.1														Updated weekly
		Cement Grout Seal	2.1														
		SD-18 Records															
		Well Abandonment Plan	1.1.2														
		Well Abandonment Report															
02315	SD-09 Reports																
		Borrow Site Testing (Chemical Test)	2.2														
02315	Common Fill (Chemical/Geotech.)		2.2.2														
		Areas C1/C2 Confirmation Sampling	3.5.12														

SUBMITTAL REGISTER

TITLE AND LOCATION					CONTRACTOR					CONTRACT NUMBER							
Remediation Design, Site 2, Former MCAS El Toro					ERRG					N62711-01-D-6016							
TRANSMITTAL NO	SPEC	DESCRIPTION OF ITEM SUBMITTED	PARAGRAPHS	CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY				MAILED TO CONTR/ DATE RCD FROM APPR AUTH	REMARKS		
					SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACCT	DATE OF ACTION	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	ACTION CODE			DATE OF ACTION	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
			SD-12 Field Test Reports														
			Foundation Layer														
			Geotechnical Tests	2.2.3													
			Evapotranspirational Soil Cover														
			Geotechnical Tests	2.2.4													
			Fill and Backfill (Anchor Trench)	3.7													
			Density Tests														
			Common/Foundation/ET Cover	3.12.2.4													
			Hydraulic Conductivity testing	3.12.2.5													
02370			SD-02 Manufacturer's Catalog Data	1.2													
			Erosion Control Blankets	2.1													
			SD-04 Drawings														
			Maintenance Record	3.3													
			SD-07 Schedules														
			Materials	1.4													
			SD-09 Reports														
			Erosion Control Plan	3.1		23-Sep											
			Construction Work Sequence Schedule	3.1													
			Finish Grade Acceptance	3.1.1													
			SD-10 Test Reports														
			Erosion Control Blankets Compliance Testing	2.1													
			Erosion Control Blankets Installation	3.2.1													
			SD-13 Certificates														
02370			Installers Qualification	1.6													
			Erosion Control Blankets	2.1													
			Maintenance Instructions	3.3.1.1													

SUBMITTAL REGISTER

TITLE AND LOCATION		CONTRACTOR		CONTRACT NUMBER													
Remediation Design, Site 2, Former MCAS EI Toro		ERRG		N62711-01-D-6016													
TRANSMITTAL NO	SPEC	DESCRIPTION OF ITEM SUBMITTED	PARRAGRAPHS	CONTRACTOR: SCHEDULE DATES		CONTRACTOR ACTION				APPROVING AUTHORITY				REMARKS			
				CLASIFICATION	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	DATE OF ACTION	DATE OF ACTION						
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
02371		SD-02 Manufacturer's Catalog Data															
		Gabions	2.1.1														
		SD-06 Installation Instructions	1.2.2														
		SD-10 Test Reports															
		Stone Quality	2.1.3.1														
		SD-13 Certificates															
		Gabions	2.1.1														
		Wire Fasteners	2.1.2.2														
		Alternative Wire Fasteners for Gabions	2.1.2														
02372		SD-01 Data															
		Geomembrane physical properties	2.1.3														
		SD-08 Statements															
		Quality Control Certificates and Guarantees	2.2.2														
		Geomembrane Quality Control Certificates	2.2.3														
		Subgrade Acceptance	3.1.1														
		SD-09 Reports															
		Manufacturer's Certified Quality Control Test Results	2.2.3														
02373		SD-01 Data															
		Geotextile Properties Sheet	2.2.2														
		SD-06 Instructions	1.2.2														
02373		Manufacturer's Quality Control Manual	2.2.1														
		SD-08 Statements															
		Quality Control Certificates	2.2.2														
		SD-09 Reports															
		Quality Control	2.2.2														

SUBMITTAL FORM, Jan 96

N:\ERRG-EI Toro\FINAL RAWP\Appendix I-COC\QC Forms\QC Register.xls

PREVIOUS EDITION IS OBSOLETE

SUBMITTAL REGISTER

TITLE AND LOCATION					CONTRACTOR										CONTRACT NUMBER		
Remediation Design, Site 2, Former MCAS El Toro					ERRG										N62711-01-D-6016		
TRANSMITTAL NO	SPEC	DESCRIPTION OF ITEM SUBMITTED	PARAGRAPH #	CLASSIFICATION	CONTRACTOR: SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	APPROVING AUTHORITY			MAILED TO CONTR/ DATE RCD FROM APPR AUTH	REMARKS		
					SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	ACCTION	DATE OF ACTION		DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	ACCTION			DATE OF ACTION	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	02380		SD-01 Data														
			Bedding Material	2.1													
			Riprap	2.2.2													
			SD-10 Test Reports														
			Evaluation Testing of Stone	2.2.1.1													
			Gradation Test	2.2.1.2													
			Bulk Specific Gravity	2.2.1.3													
			SD-13 Certificates														
			Certified Weight Scale Tickets	1.2.3													
			Stone	1.4.1													
			Bedding Material	2.1													
	02525		SD-01 Data														
			Well and Probe Casing	1.6.1													
			Well and Probe Screen	2.2													
			Filter Pack and Grain Size Curve	2.4													
			Bentonite Seal	2.5.1													
			Neat Cement Grout	2.5.2													
			SD-04 Drawings														
			Well and Probe Construction	1.6.1													
	02525		SD-13 Certificates														
			Treatment Facility Permit	1.6.2													
			Well Development Report	1.6.3													
			Installation Survey Report	3.9													
			SD-18 Records														
			Shipment Manifests	1.6.4													
			Delivery Certificates	1.6.5													
			Treatment and Disposal Certificate	1.6.6													
SUBMITTAL FORM, Jan 96																	

SUBMITTAL REGISTER

TITLE AND LOCATION				CONTRACTOR										CONTRACT NUMBER			
Remediation Design, Site 2, Former MCAS EI Toro				ERRG										N62711-01-D-6016			
TRANSMISSION CATEGORY	DESCRIPTION OF ITEM SUBMITTED	PARAGRAPH LETTER	CLASSIFICATION	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	APPROVING AUTHORITY			MAILED TO CONTR/ DATE RCD FROM APPR AUTH	REMARKS			
				SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	DATE OF ACTION	DATE FWD TO OTHER REVIEWER		DATE RCD FROM OTHER REVIEWER	DATE OF ACTION						
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
	02721	SD-10 Test Reports															
		Resistance value (R-Value)		2.1													
		Percentage of Wear		3.4.1.5													
		SD-12 Field Test Reports															
		Gradation Test		3.4.1.3													
		Density tests		3.4.1.1													
	02821	SD-02 Manufacturer's Catalog Data															
		Chain-link Fencing		2.1													
		Framing		2.1.2													
		Accessories		2.1.4													
		SD-13 Certificates															
		Fabric and Posts		2.1.1/2													
		Gates, Braces and Rails		2.1.3													
		Tension Wires		3.2.3													
	02921	SD-02 Manufacturer's Catalog Data															See Restoration Plan
		Erosion Control Materials		2.3													See Restoration Plan
	02921	SD-04 Drawings															See Restoration Plan
		Temporary Irrigation System		2.5													See Restoration Plan
		SD-06 Instructions															See Restoration Plan
		Installation of Erosion Control Materials		3.3													See Restoration Plan
		SD-07 Schedules															See Restoration Plan
		Seed and Plant Materials		2.1													See Restoration Plan
		Mulch and Topsoil		2.2													See Restoration Plan
		Mycorrhizal Inoculum		2.4													See Restoration Plan

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1 OF 4 PAGES

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TITLE AND LOCATION		CONTRACTOR										CONTRACT NUMBER					
Remediation Design, Site 17, Former MCAS E Toro		ERRG										N62711-01-D-6016					
TRANSACTION	SUBMITTAL TYPE	DESCRIPTION OF ITEM SUBMITTED	P A R A G R A P H #	C L A S S I F I C A T I O N	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		APPROVING AUTHORITY			MAILED TO CONTR/ DATE RCD FRM APPR AUTH	REMARKS			
					SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	A C T I O N C O D E	DATE FWD TO APPR AUTH/ DATE RCD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RCD FROM OTHER REVIEWER	A C T I O N C O D E			DATE OF ACTION		
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
			Hydraulic Conductivity testing	3.11.2.5													
02373			SD-01 Data														
			Geotextile Properties Sheet	2.2.2													
			SD-06 Instructions	1.2.2													
			Manufacturer's Quality Control Manual	2.2.1													
			SD-08 Statements and Quality Control Certificates	2.2.2													
			SD-09 Reports and Quality Control	2.2.2													
02380			SD-01 Data														
			Bedding Material	2.1													
			Riprap	2.2.2													
			SD-10 Test Reports														
			Evaluation Testing of Stone	2.2.1.1													
			Gradation Test	2.2.1.2													
			Bulk Specific Gravity	2.2.1.3													
			SD-13 Certificates														
			Certified Weight Scale Tickets	1.2.3													
			Stone	1.4.1													
			Bedding Material	2.1													
02525			SD-01 Data														
			Well and Probe Casing	2.1													
			Well and Probe Screen	2.2													
			Filter Pack and Grain Size Curve	2.4													
			Bentonite Seal	2.5.1													
02525			Neat Cement Grout	2.5.2													
			Suction Lysimeter	2.8													

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